A STUDY OF FERTILITY TRENDS WITH SPECIAL REFERENCE TO RECENT EXPERIENCE IN SCOTLAND

BY

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INTRODUCTION.

Chapter 1.

The widespread acceptance of birth control and other methods of deliberate family limitation has brought child-bearing to a great extent under human control. A large proportion of married couples tend to have planned families, both in number of children and in timing of their births. About the practice of family limitation in Great Britain, the Royal Commission On Population (1949) stated in their report - "The widespread practice of birth control is undoubted, and our survey of causes suggests that although the extent and efficiency of its practice may vary, no changes in the social environment are likely to lead men and women to abandon this means of control over their circumstances. This fundamental - and momentous - adjustment to modern life has to be accepted as the starting point for consideration of the probable future trend of population."

The Crude Birth Rate, i.e., the annual number of live births per 1000 population, started a downward movement in Great Britain in the last quarter of the nineteenth century. As the great majority of children are born to married women, this decline in Birth Rate reflects a radical change in the fertility trend of married couples of the period. The sharp decline in fertility was not due to a decrease in the number of marriages, but to a smaller number of births per marriage. This fall in fertility of married couples resulted essentially from the voluntary practice of 'family limitation'. The revolutionary changes in the social environment of the country during the nineteenth century strengthened the forces against unrestricted child-bearing. The small family pattern began in professional and wealthier

groups and then gradually spread to other classes. The average size of the family began to fall and after a slow beginning the trend gathered momentum.

The family census of 1946, carried out by the Royal Commission on Population on the basis of a 10 per cent. sample, closed a big gap in the knowledge of fertility trend in Great Britain and provided a basis for comparison with the previous fertility census taken in 1911. It showed that the course of completed fertility of couples had, since the Mid-Victorian era, passed through a phase of progressive decline in successive decades. From an average family size of 6.5 children for women married in the period 1862-69, it came down to 2.7 for the brides of 1910-19. An estimate on the basis of the 1911 fertility census of England and Wales indicates that in the period before the big decline in family size began, all the numbers of children up to 10 were substantially represented in the distribution of families by size. The families with 5, 6 and 7 children formed the highest proportion. Compared to this, there was a great concentration on the smallest families among the couples married in the 1920's in Great Britain, and 1 and 2 child families became most common.

The decline in family size, however, did not occur to the same extent among the entire population. The trend has varied between occupational groups, between people of different religious affiliation and in geographical regions. But the main difference has been between occupational groups. The average size of the family of manual workers has been consistently higher than that of non-manual workers.

The fall in the number of annual births in Great Britain was checked in 1933. Following a period of stability from 1933 to 1941, the annual number of births began to rise and there was a further increase after the

end of the war. The sharp rise in number of births following World War II made good the number of children whose conception the war had postponed. An estimate of the fertility of married couples in the period 1939-48 as a whole, on the arguments put forward by the Royal Commission on Population, suggested that it was between 1 and 5 percent. higher than the rates of 1935-38.

It was also evident that during the preceding two decades a change of attitude to size of family had taken place and the extremely small family pattern of early 1920's was no longer popular.

The Royal Commission on Population expected that the unprecedented rise in births in the post-war period would be followed by a substantial decline in the annual number of births over the next fifteen years. But soon a new rising trend in births was evident. The beginning of an upturn in birth rate, first noticed in Scotland in 1953, became visible in England and Wales in the later part of the year 1955. The Registrar General's Statistical Reviews of England and Wales depict the current trend in the fertility of married women in England and Wales.

Our knowledge of the recent fertility trend in Scotland is limited. Information is needed about the family building habits of present-day couples. In the words of Professor F.A.E. Crew, - "to the medical sociologist Scotland connotes a particular human population with its own history and culture, living in a particular environment, physical and social".

In the past, the fertility trend in Scotland has not been identical to that in England and Wales. Marriage habits have also differed. The decline in family size has proceeded slowly in Scotland.

In the recent past there has been a large-scale internal migration in Scotland from agricultural areas to the industrial region, from the country to the city. The changes in the occupational activities of the population and the emigration which always involves a high proportion of younger people, must have affected the fertility trend of the population.

It is surprising how the present upward trend in births, though slight to start with, has been persisting for some ten years. To understand the pattern of fertility which has resulted in such an event is a matter of first importance to our present study. The planning of families does not mean that families are necessarily small. The social and economic conditions prevalent at the time when people marry, influence newly-wed couples in their planning of a family. With changes in social and economic conditions couples may change their attitude towards ultimate size of their families. Moreover, family planning makes it possible to bring changes in the timing of births.

For the proper appreciation of the fertility trend which has resulted in the unanticipated upsurge in number of births in the 1950's, it is necessary to undertake cohort analysis. The women married in a particular period can be grouped and their subsequent reproductive lives followed. The study of the fertility records of such groups, or cohorts, provides a better picture of the fertility trend than the analysis of births or fertility rates of any one period. Cohort analysis helps us to appreciate the fertility of women (a) at any duration of marriage, (b) for each age at marriage, and (c) in different socio-economic groupings. Divergent trends may exist in different groups within a cohort. We can know how the trend of fertility of one section is being balanced or masked by that

of the other. We can discern the changes taking place in the pattern of fertility by comparing the fertility of different cohorts according to duration of marriage, age at marriage, social class or any other groupings as desired.

The present study is an attempt to understand the recent trend and pattern of fertility in Scotland by analysing the data available and to correlate the same with information obtained from a sample cohort analysis undertaken for the purpose. It is necessary to have a proper interpretation of the present rising trend in births for manifold reasons.

It has been shown that the Still Birth Rate and the Mortality Rates of Infants of different ages during the first two years of life have some relationship with the age of mother and the pattern of fertility. It is desirable to know whether the present pattern of fertility in Scotland will have an adverse effect on those rates or not.

It is necessary to know the impact of the recent rise in births on the ultimate family size. Inspite of the increase in births which has taken place during the past ten years, the number of children may not be sufficient to replace the generation to which their parents belonged. We must assess the present trend in births regarding its adequacy for the replacement of the population.

In Scotland the birth rate exceeds the death rate and the population has been increasing. We should know if the present rise in births indicates or predetermines an acceleration of the rate of population growth. While the growth of a population is preferable to a decline, the rate of its growth must not be so rapid as to outstrip its own natural resources, upset

its economic equilibrium or hamper the social prosperity by affecting improvements in nutrition, housing, education, medical and other public services.

All National plans for future development are based not only on the existing size of the population but also on its future trends. Knowledge of the potential or probable trends in births is the chief factor in all population forecasts. The long term plans for capital outlays for expansion programmes by government for educational and health facilities, social security, housing and other public utility constructions, and for training programmes for doctors, nurses, teachers and other technicians, require some assumptions about the future size of the population to be served. An assessment of available manpower for industries, defence and future economic projects is necessary. Some idea about trends in population growth is also vital for industrial and commercial concerns in their planning for future developments.

An analysis of the fertility trend not only shows what is happening in the total population, it helps to create a forethought for the future as well. Fertility trends exhibit considerable inertia and future trends can be conceived on the evidence of past records.

If we take a realistic view, perhaps the present growth of population is not a menace in Scotland. As a part of Great Britain, she is not likely to be affected in the economic or social sphere due to the burden of over-population in the foreseeable future.

Following the depression of the 1930's and World War II, the birth rate has increased in many countries where it has been previously declining.

Many reasons have been put forward to explain this trend, such as, making up of births postponed during the years of depression and the early years of war, changes in the timing of marriages and the spacing of births, and a tendency toward an increase in the size of completed families. (Population Studies. No. 17. United Nations; Carrier - 1963.)

These countries with effective economic organisation and technological resources will, no doubt, find the solution of population problem that may result from changing pattern of fertility. The presence of over-population is of much less importance to them than it is to densely populated under-developed countries.

Population Studies (No. 17, 28 - United Nations) provide valuable information on the growth of population which has created a global problem.

In Northern, Western and Central Europe, Northern America, and Australia and New Zealand fertility has declined since the end of last century. It reached a very low level in the 1930's and has shown some recovery subsequently. It has declined recently in Japan and Soviet Union. A similar trend has also been seen in Southern Europe and Temperate South America.

The high-fertility populations constitute about two-thirds of the world population and live in technologically under-developed regions which include most of Asia except Japan, Africa, Central America, Tropical South America, the Caribbean, and the Pacific Islands. Accurate data are not available for many regions. Reliably recorded birth rates show that they range upto 50 per thousand of population. In these areas, as a whole, mortality is also high. The decline in mortality is almost

universal now and a rapid fall is inevitable, even if it is initially high, because of improvement of public health measures and introduction of superior medical techniques. Without a commensurate decline in fertility the growth in population will be further augmented in these countries and will baffle economic and social developments which are being expanded with great difficulty.

India, the country of the author, is facing the problem of a growing population in an under-developed economy and at a relatively early stage of industrialisation. Inspite of much advocacy by the Government of India to promote birth control to slow down the increase of population, the rising trend is continuing. In the 1951 census the population of India was estimated at 356.9 million. The 1961 census shows that the figure has risen to 434.8 million. In India vital statistics are far from complete and are of widely varying quality in different parts of the country. Davis (1951) has estimated a birth rate of 46.4 for the 1921-31 period and 45.2 for the 1931-41 period. The figure for 1951 is 43.2. The report of a field survey carried out in selected areas of Mysore State shows that the birth rate varies in different zones between 33 and 47 with an overall rate of 40.0. (Polulation Studies No.34, United Nations)

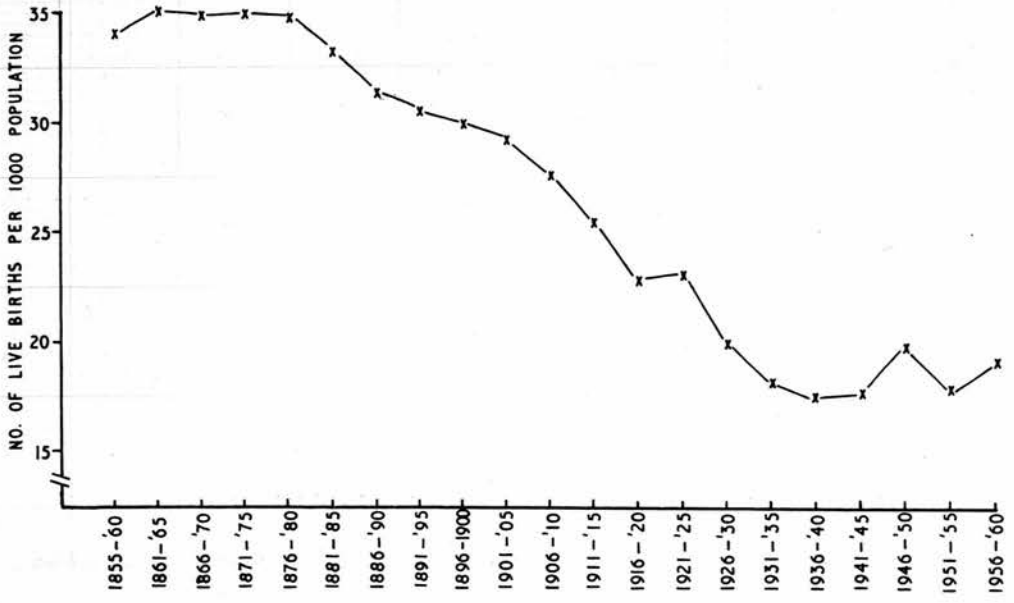
The estimated death rate is 36.3 for the 1921-31 period and 31.0 for 1951. The assessed death rate for 1950-'55 is 28.0. That the decline in fertility is lagging behind the fall in mortality is undoubted and this discrepancy will continue for some time to come. It is hoped that as India makes the transition from a rural-agricultural to an urban-industrial economy the fertility trend will undergo radical changes, as it happened in Western Countries.

To the Medical Sociologist problems relating to the growth of population in the area in which he works are of vital importance. The present study is an exercise in demographic methods. It was planned to test concepts about the fertility trend. The study of the fertility trend in a group, even on a limited scale, is a stepping stone in our knowledge of the dynamics of population growth. The methodological experience, thus gained, can be applied in future in sampling studies and pilot projects in India for obtaining information on trends of fertility.

FIG. 1

THE CRUDE BIRTH RATE IN SCOTLAND

5-YEAR AVERAGES FROM 1855 – 1960



THE TREND OF FERTILITY IN SCOTLAND.

CHAPTER 2.

To improve our understanding of the changes in the fertility which might have taken place in Scotland in recent years, we must learn about the trend that had prevailed in the earlier years. We shall endeavour in the present chapter to evaluate the data to find out whether there had been a consistent trend in the past and to what extent it may have varied in recent years.

THE CRUDE BIRTH RATE.

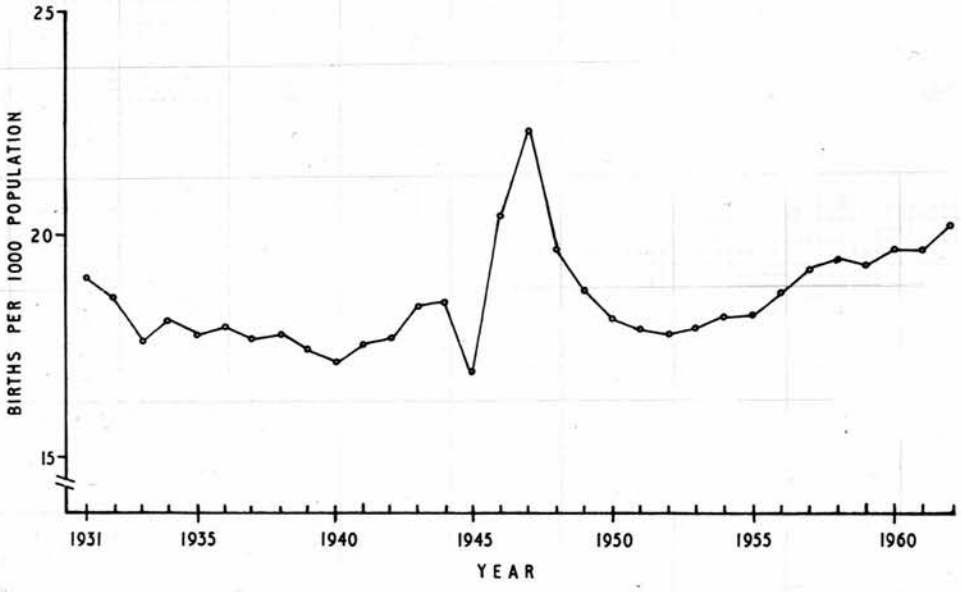
The Statute requiring registration of births, deaths and marriages was not brought into force in Scotland until 1855. In that year the Crude Birth Rate first began to be calculable and was 31.3 per 1000 total population. It rose further and reached its highest point in 1876 when there were no less than 35.6 live births per 1000 population.

The Crude Birth Rate started its downward movement after this peak rise. The decline, after being accentuated during the years of the First World War, was interrupted by a temporary post-war rise. The downward trend was resumed in 1921. In 1927 the Crude Birth Rate was below 20 for the first time in Scotland and by 1933 it had come down to 17.6 representing only a half of the 1876 rate.

The 5-year averages of the Crude Birth Rate in Scotland from 1855 are presented in Appendix Table 1. Fig.1, illustrating these figures, demonstrates a long run downward trend in the Crude Birth Rate prior to the outbreak of World War II. This trend was not affected by the

FIG. 2

THE CRUDE BIRTH RATE IN SCOTLAND 1931–1962



fluctuations during and after World War I. The 1936-'40 rate of 17.6 is the lowest recorded 5-year Crude Birth Rate in Scotland. During the next 5 years, when World War II was raging, the average rate was slightly higher showing a contrast to what had happened during World War I.

After the remarkable rise of 1946-50 the rate declined in 1951-'55, but it was still higher than the rate prevalent in 1936-'40. During 1956-'60 the rate moved up once more after the war. The Crude Birth Rate of 1956-'60 is comparable to the high post-war rate of 1946-'50 and the higher rates of the later part of the 1920's.

The Crude Birth Rate in Scotland from 1931 is given in Appendix Table II. The changes during this period are illustrated in Fig. 2. When the Second World War broke out Scotland had a fairly stabilised Crude Birth Rate. During the years of the war it did not fall and varied between 17 and 18.5. In the immediate post-war period there was a sharp rise in the number of live births per 1000 population. When the rate reached its peak in 1947, it was 22.3 per 1000 population. Thereafter a decline started and by 1952 the rate had fallen to 17.7. However, it began to rise in 1953 and has risen steadily since then. In 1957 it crossed the 1931 rate. By 1960 it had reached a figure of 19.6 and almost equalled the high rate of 1948. The Crude Birth Rate was 20.1 in 1962. This is the highest figure after 1947 and is above the 1927 rate.

The variations in the 5-year Crude Birth Rates in recent times are shown in Table 1.

TABLE - 1.

FIVE-YEAR CRUDE BIRTH RATE OF SCOTLAND 1931-'60.

5-year period	Live births per 1000 population.			
	Rate	Percent. of rate of preceding period	Percent. of rate for 1931-35	Percent. of rate for 1936-40
1931-35	18.207	...	...	104
1936-40	17.557	96	96	...
1941-45	17.766	101	98	101
1946-50	19.806	111	109	113
1951-55	17.902	90	98	102
1956-60	19.176	107	105	109

The 1951-55 rate is 2 percent. less than the 1931-35 rate and is 2 percent. higher than the rate of 1936-40.

The 1956-60 rate is higher than the 1931-35 and 1936-40 rates by 5 percent. and 9 percent. respectively.

The 1956-60 rate is 7 percent. more than the rate of preceding 5 years.

The 1961 rate of 19.5 and the 1962 rate of 20.1 are higher than the 5-year average rate for 1956-60.

The above data show that the Crude Birth Rate in Scotland had passed through a declining phase for more than 50 years to become about

one half of its former figure, before it attained a stability in the 1930's. It did not return to the pre-war stability after World War II. In recent years a new and rising trend in the Crude Birth Rate has come into existence.

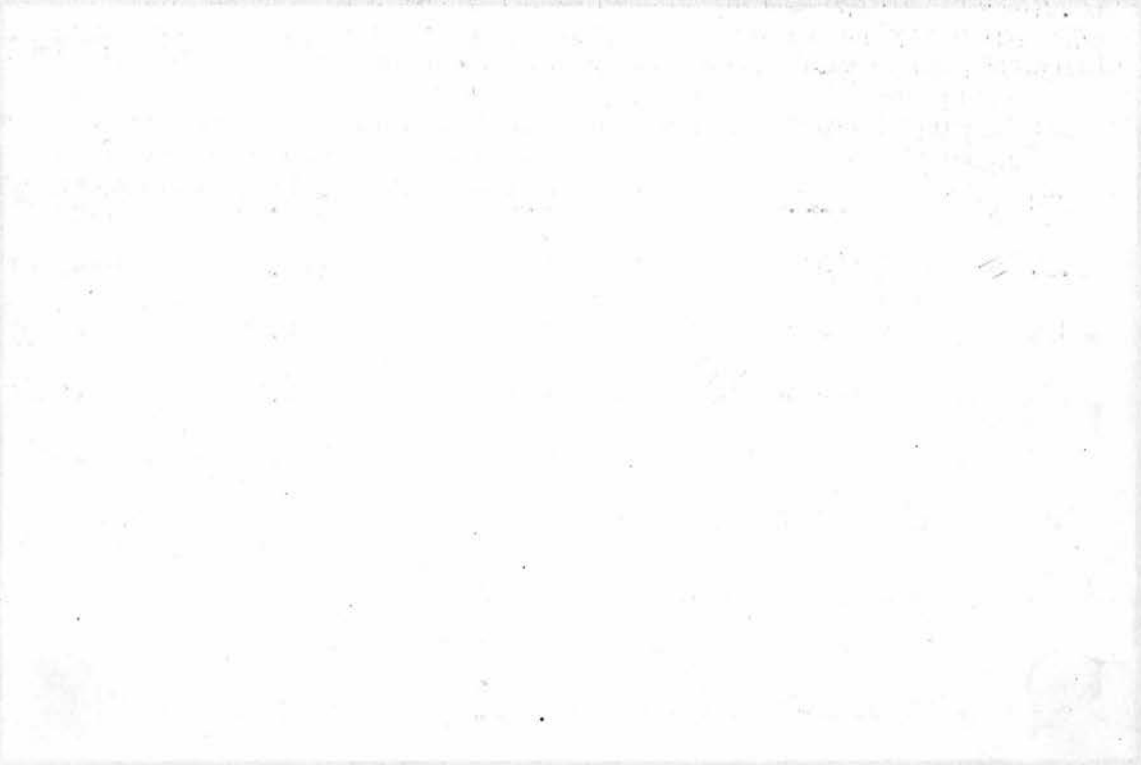
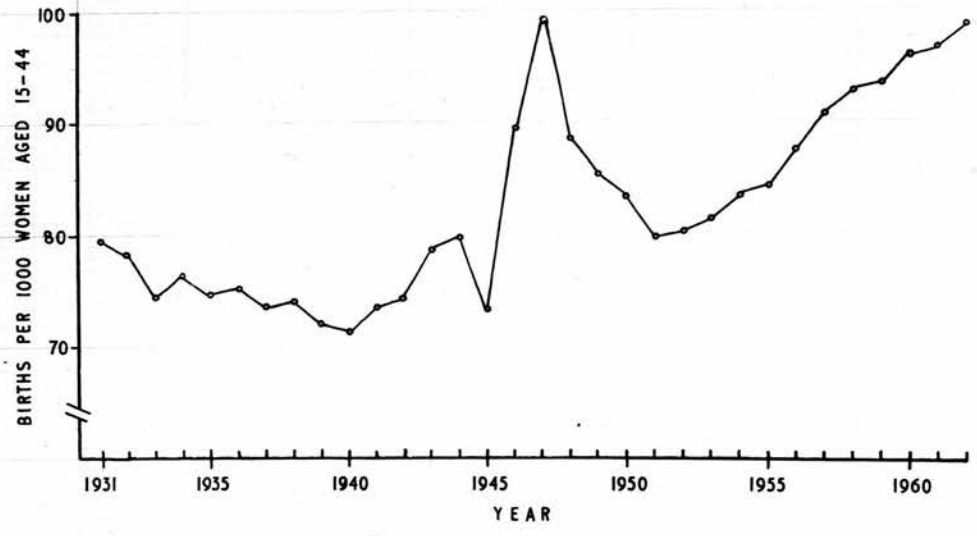


FIG. 3

TOTAL FERTILITY RATE IN SCOTLAND 1931–1962



THE TOTAL FERTILITY RATE.

The present rise in the Crude Birth Rate does not necessarily mean a similar trend in fertility rates. The changes in the size of the section of the population not concerned in child bearing can mask the fertility trend.

The fertility trend can be better understood by relating births to women of child bearing age than to the total population.

The "Total"Fertility Rate, i.e.,the number of live births per 1000 females aged 15-44, in Scotland from 1931 is shown in Appendix Table 111

Fluctuations in the Total Fertility Rates of this period are evident in Fig. 3. In 1931, the rate was 79.8. It was lowest in 1940 with a figure of 71.4. There was a definite post-war rise and the peak was reached in 1947 with a Total Fertility Rate of 99.1. The subsequent fall continued till 1951. From 1952 it has been progressively increasing to reach the 1962 rate of 98.6

The changes in the Total Fertility Rate from 1931 can be followed from the 5-year averages given in Table -2.

TABLE - 2.

TOTAL FERTILITY RATE IN SCOTLAND

FROM 1931 IN 5 yearly AVERAGES.

5-year period	Live births per 1000 females aged 15-44			
	Rate	Percent. of rate of preceding period	Percent.of rate for 1931-35	Percent of rate for 1936-40
1931-35	76.8	...	...	105
1936-40	73.3	95	95	...
1941-45	75.9	104	99	104
1946-50	87.5	115	114	119
1951-55	81.9	94	107	112
1956-60	92.0	112	120	126

The Total Fertility Rate after the war has been higher than the rates before and during the war. The 1956-60 rate of 92.0 has been the highest five yearly average during this period. The 1936-40 rate with the figure of 73.3 is the lowest.

The 1951-55 rate is 7 percent. more than the 1931-35 rate, whereas the 1956-60 rate is 20 percent. higher.

Compared to the 1936-40 rate, the increase in the two periods, 1951-55 and 1956-60, are 12 and 26 percent. respectively.

ILLEGITIMACY.

The Total Fertility Rate embraces both the legitimate and illegitimate births.

When the war started the number of illegitimate births and the Illegitimate Fertility Rate, i.e., the number of illegitimate live births per 1000 unmarried and widowed women aged 15-44, were on decline. War conditions boosted the number of illegitimate births with resultant higher Illegitimate Fertility Rates.

After the war the illegitimate births fell, but the illegitimate fertility rate did not show an exactly similar trend.

Table 3. shows the number of illegitimate births, the proportion of illegitimate births to total births and the Illegitimate Fertility Rates in Scotland from 1931 in 5-year averages.

FIG. 4

THE PROPORTION OF ILLEGITIMATE BIRTHS TO TOTAL BIRTHS IN SCOTLAND

5-YEAR AVERAGES FROM 1931 – 1960

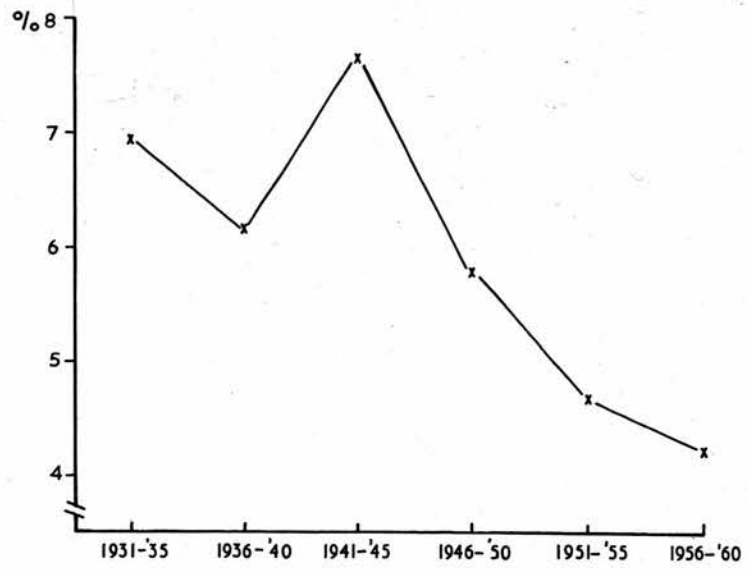


TABLE - 3.

Illegitimate births, proportion of illegitmate births/to total births, the Illegitimate Fertility Rate of Scotland from 1931 in 5 - year averages.

5- year period.	No of illegitimate births.	Illegitimate births - percent. of total births.	Illegitimate births per 1000 unmarried women and widows aged 15-44 .
1931-35	6,195	6.94	9.6
1936-40	5,397	6.15	8.6
1941-45	6,964	7.61	11.8
1946-50	5,819	5.75	11.4
1951-55	4,259	4.66	9.24
1956-60	4,140	4.20	10.26

In 1956-'60 the number of illegitimate births was 4,140. This is 119 less than in the previous 5 years. The Illegitimate Fertility Rate in 1956-60 rose from 9.24 of 1951-55 to 10.26. This apparent disparity is due to a decrease in the number of unmarried and widowed women in the age group 15-44. The 5-year average number of unmarried and widowed women aged 15-44 during the period 1951-55 represented 460.9 thousands. It declined to 403.5 thousands in 1956-60.

The proportion of illegitimate births to total births has shown a downward trend after 1931, excluding the war period. Fig. 4. illustrates this trend. After the war this proportion has continued to be less than

6 percent.

The downward trend in the illegitimate births, both in absolute number and in proportion to total births, after World War II suggests that the increase in the number of legitimate births has caused the upsurge in births in the 1950's.

Although the number of illegitimate births is small compared to legitimate births in any year, its inclusion affects the estimation of the rate of fertility to a great extent by bringing in a large section of females who are not in conjugal life.

If legitimate births are related only to the married women of child-bearing age, a more refined basis of measurement is obtained due to a narrower base.

The minimum legal age of marriage in Scotland is 16. The number of legitimate births per 1000 married females aged 16-44, constitutes the Married Fertility Rate and such a rate is a better index of the fertility trend of the married couples to whom the majority of births occur, than the Total Fertility Rate.

THE MARRIED FERTILITY RATE.

The fertility of marriage has greatly declined in Scotland during the past 100 years. The Married Fertility Rates for the 3-year periods around census dates from 1860 to 1962 are shown in Table - 4.

TABLE - 4.

MARRIED FERTILITY RATE OF SCOTLAND 1860-1962.

Year	Legitimate births per 1000 married women aged under 45.			
	Rate	Percent. ofrate for preceding period.	Percent. of rate for 1860-62.	Percent. decrease from rate for 1860-62.
1860-62	316.0	....	100	-
1870-72	319.4	101.1	101.1	-
1880-82	311.5	97.5	98.6	1.4
1890-92	296.4	95.2	93.8	6.2
1900-02	271.8	91.7	86.0	14.0
1910-12	233.2	85.8	73.8	26.2
1920-22	226.7	97.2	71.7	28.3
1930-32	169.0	74.5	53.5	46.5
*1940-42	136.9	81.0	43.3	56.7
1950-52	132.3	96.6	41.9	58.1
1960-62	144.6	109.3	45.8	54.2

(The figures are taken for three year periods around census dates.)

* There was no census in 1941.

FIG. 5 A

The Married Fertility Rate of Scotland for 3-Year Periods around Census Dates from 1860–1962

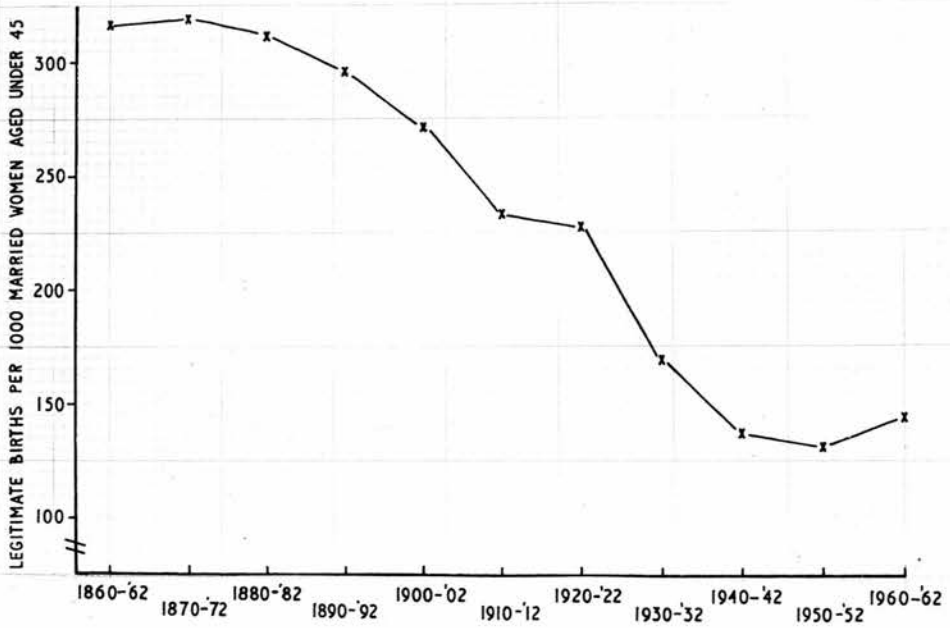
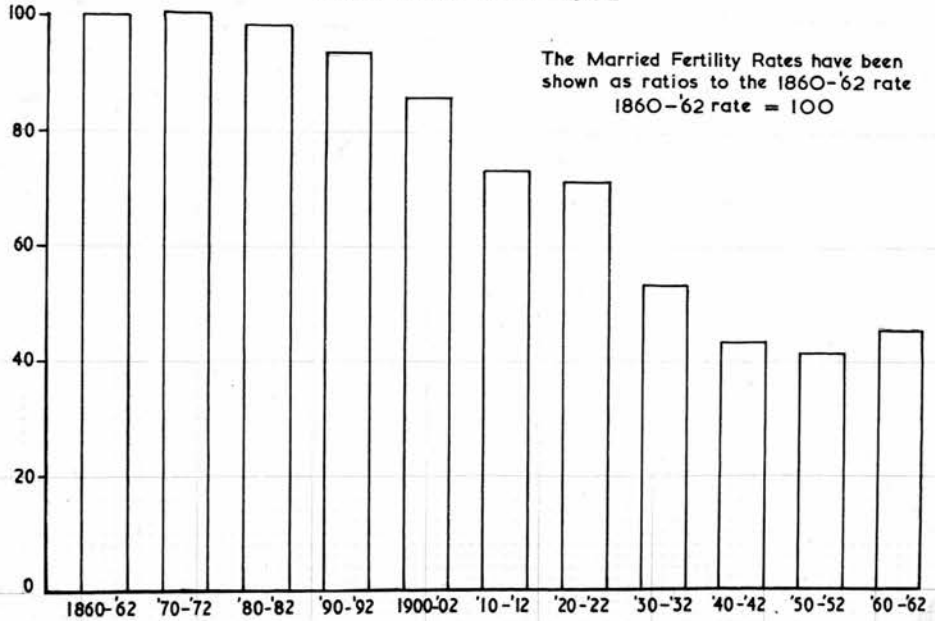


FIG. 5 B

The Married Fertility Rate of Scotland for 3-Year Periods around Census Dates from 1860–1962



The number of live births for every 1000 married women aged 16-44 in 1860-'62 was 316.0. It rose to 319.4 in the next decade. After that there had been a constant though varying decrease in the Married Fertility Rate upto 1950-'52. This is illustrated in Fig.-5.

By 1900-'02 the rate had decreased to 86 percent. of the 1860-'62 rate. Compared to this fall of 14 percent. between 1860-'62 and 1900-'02, the Married Fertility Rate fell by 26.2 percent. between 1860-'62 to 1910-'12, and by 46.5 percent. between 1860-'62 to 1930-'32.

In 1930-'32 the fall was a sharp one. It was followed by further decreases. The continued downward movement brought down the Married Fertility Rate to 132.3 in 1950-'52. This is the lowest figure recorded for any decade in Scotland and represents only 41.9 percent. of the rate of 1860-'62, showing a fall of 58.1 percent. from that rate.

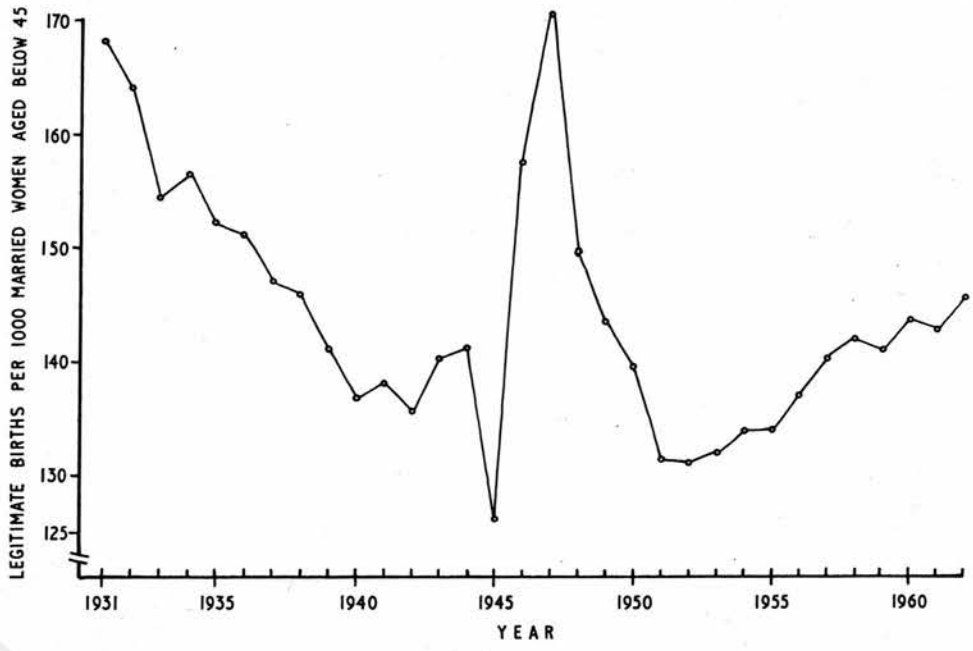
The 1960-'62 rate of 144.6 is 9.3 percent. higher than the 1950-'52 rate. Although the 1960-'62 rate is much below the 1930-'32 rate and constitutes only 45.8 percent. of the rate of 1860-'62, it is undoubted that it presents a striking contrast.

The Married Fertility Rates from 1931 are presented in Appendix Table -IV. Fig. 6 exemplifies the phases through which Married Fertility Rate has passed in recent years.

The Married Fertility Rate was on its decline when the war started. After a fall in the early years of the war it recovered to some extent in 1943-'44. The sharp fall in 1945 was a repercussion of the phase of the war. During the 4 years from 1939 to 1942, the average annual number of marriages was 48,695. The average figure for the next two years was 37,597.

FIG. 6

THE MARRIED FERTILITY RATE IN SCOTLAND 1931–1962



This decline in number of marriages in 1943-'44 compared to preceding four years and the separation of married couples resulting from landing of large armies in Western Europe in 1944 had their effect on the Married Fertility Rate.

With the de-mobilisation and the return of men from abroad at the end of the war, the married couples were re-united. A large number of marriages postponed during the war was made up. The Married Fertility Rate soared. The number of births per 1000 married women in 1946 was 158.0. It rose to 171.5 in 1947. This rise in the wake of the cessation of war was but natural and expected.

The rate slumped in 1948 and by 1950 the continued fall in the Married Fertility Rate brought it down well below the pre-war level.

In the years of 1951-'52 the rate fell further. If the "abnormal" year of 1945 is excluded, the figure of 131.3 for 1952 stands as the lowest Married Fertility Rate in Scotland.

The rate increased in 1953. There was another increase in 1954. From 1956, the level of the fertility rate has been sufficiently high to draw attention.

During 1960-'62 the rate varied between 143 and 146.5. The 1962 rate of 146.4 is higher than the 1938 rate of 146.1. To measure the changes in the 1950's the 5-year averages of the Married Fertility Rate from 1931 have been compared in Table - 5.

TABLE - 5.

MARRIED FERTILITY RATE IN SCOTLAND FROM 1931 IN 5 YEARLY AVERAGES.

5-year period	Legitimate births per 1000 married women aged below 45			
	Rate	Percent. of rate for preceding period.	Percent. of rate for 1931-35.	Percent. of rate for 1936-40.
1931-35	159.3	...	...	110
1936-40	144.6	91	91	...
1941-45	136.4	94	86	94
1946-50	147.5	108	93	102
1951-55	133.0	90	83	92
1956-60	141.4	106	89	98

The 5-year average of the Married Fertility Rate during 1931-'35 was 159.3. It declined by 9 percent. in 1936-'40. During the next 5-year period it decreased further, 1941-'45 rate being 14 percent. less than the 1931-'35 rate.

After the war the rate has varied greatly in three 5-year periods. The 1946-'50 rate stands between the 1931-'35 and 1936-'40 rates, being 7 percent. less than the former and 2 percent. higher than the latter.

The 1951-'55 rate of 133.0 is the lowest for any 5-year period.

The 1956-'60 rate of 141.4 is 6 percent. higher than the 1951-'55 rate, but it is less than the rates of the 1930's. The 1956-'60 rate is

FIG. 7A

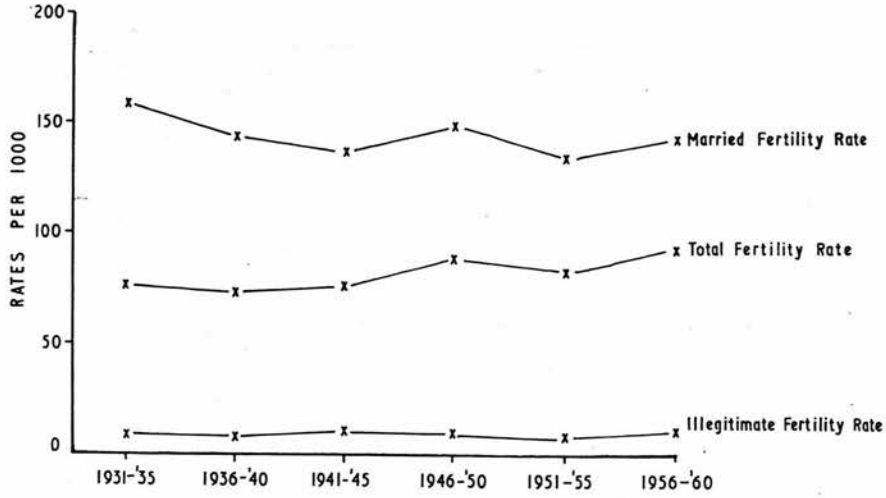
The Crude Birth Rate and the Fertility Rates in Scotland in 5-Year Averages from 1931

THE CRUDE BIRTH RATE, TOTAL FERTILITY RATE & THE MARRIED FERTILITY RATE

FIG. 7B

The Crude Birth Rate and the Fertility Rates in Scotland in 5-Year Averages from 1931

THE FERTILITY RATES - 'TOTAL', 'MARRIED' & 'ILLEGITIMATE'



2 percent below the 1936-'40 rate and forms only 89 percent of the 1931-'35 rate.

We shall now make an attempt to correlate the movements of the Crude Birth Rate and the Fertility Rates during the 5-year periods from 1931. Fig. 7 presents the variations in the trends of the Crude Birth Rate and the Fertility Rates. Compared to the 1931-35 period, there was a decrease in the Married Fertility Rate, Illegitimate Fertility Rate, Total Fertility Rate and Crude Birth Rate during 1936-'40.

In the period 1941-'45 there was a fall in the Married Fertility Rate but the Illegitimate Fertility Rate increased. The rise in the Illegitimate Fertility Rate was associated with an increase in the Total Fertility Rate and the Crude Birth Rate.

During 1946-'50 although the Illegitimate Fertility Rate did not rise, the increase in the Married Fertility Rate was sharp. Along with the rise in the Married Fertility Rate there was a rise in the Total Fertility Rate and the Crude Birth Rate.

In the next 5-year period all the rates fell. During 1956-'60 the trend reversed and all the rates increased. It has been found that in the 1956-'60 period the Illegitimate Fertility Rate increased inspite of a fall in number of illegitimate births due to a decline in the number of unmarried and widowed females aged 15-44. It is essentially an increase in the Married Fertility Rate which has been reflected in a rise of the Total Fertility Rate and the Crude Birth Rate for this period.

What significance can be attached to this rise in the Married Fertility Rate? In the years 1961-'62 it has remained high and is above the

5-year average rate of 1956-'60.

This raises three questions about the present trend in fertility of married couples. They are as follows.

1. Is the recent rise in the Married Fertility Rate in Scotland a movement towards a stability after a period of fluctuations associated with the disturbing conditions of the war?

2. Is the present rise in the Married Fertility Rate to be attributed to a change in the family building habits of married couples without any change in the long-run trend of family limitation?

3. Does the present rise in Married Fertility Rate indicate a reversal of the earlier downward trend which brought the fertility rate down to less than half of what it had been as recently as 1900-'02?

It is difficult to establish the fertility rate in any period before World Warr II as a normal level which the first question pre-supposes. But for the slight rise in 1934, the fertility rate was declining throughout the 1930's and reached the figure of 146.1 in 1938. We have found that the fertility rate in the period 1930-'32 was 169.0. The 1938 rate is 13.6 percent. below this figure.

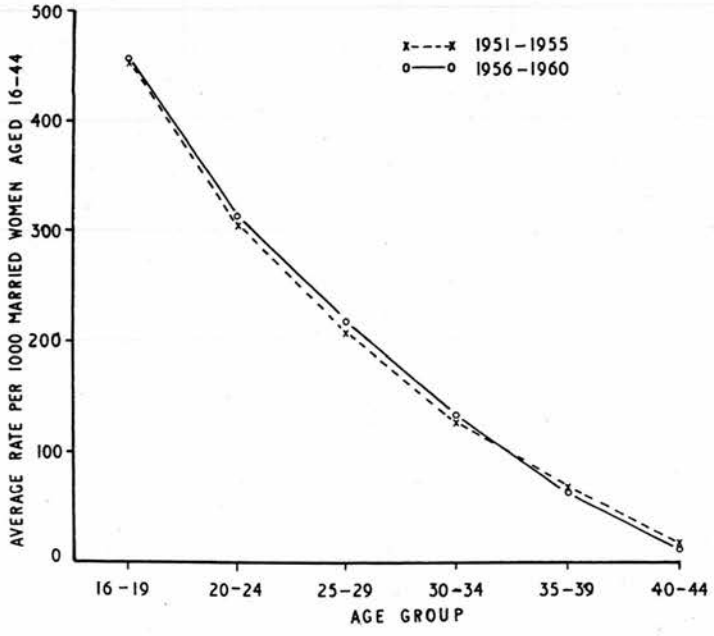
If we consider 5-year averages, the rate for 1936-'40 is 9 percent. below that of 1931-'35.

It seems that the decline in the Married Fertility Rate had not run its full course when the war broke out. The possibility of a further fall in the Married Fertility Rate from the level of the 1930's can not be ruled out. It will not, therefore, be reasonable to suppose the present

FIG. 8

Age Specific Married Fertility Rate in the 1950's in Scotland 1951-'55, 1956-'60

BASED ON 5-YEAR AVERAGES



rising trend of the Married Fertility Rate, nearing the level of the late 1930's, as a renewed tendency for the fertility rate to stabilise.

The second and third questions are interrelated to some extent. If the large number of married couples have their children in a short period of time when the socio-economic environment is favourable, or if the newly wed couples have their families more quickly after marriage, it will produce a rising trend in the fertility rate. The future course will depend on the attitude of the couples towards ultimate size of their families. The present rise will be short lived if the average size of the completed families remains stable.

On the other hand, if the family pattern among the married couples move towards larger families, it will be a move in the opposite direction to the trend that brought down the fertility rate through earlier decades.

The stability of the fertility rate will be achieved only on the return of steadiness in the average size of the families.

It is necessary to examine the pattern of the Age Specific Fertility Rates in the 1950's and to know which group or groups of married women contributed to the rise in the Married Fertility Rate in 1956-'60.

The Age Specific Fertility Rates of married women have varied greatly in different age groups. There were fluctuations in the yearly rates in each age group. The rate was the highest in the age group 16-19 in each year. It declined in the higher age groups and was lowest in the group aged 40-44. This pattern is illustrated in Fig. 8 on the basis of the 5-year rates for the periods, 1951-55 and 1956-60.

The 5-year averages of the Age Specific Fertility Rate of the married women in the 1950's have been compared in Table - 6

TABLE - 6.

AVERAGE ANNUAL FERTILITY RATES PER 1000 MARRIED FEMALES (16-44) BY AGE GROUPS IN TWO 5-YEAR PERIODS, 1951-55 AND 1956-60. SCOTLAND.

Age group	Average Rate 1951-55	1956-60	Difference from 1951-55
16-19	455.91	458.33	+2.42
20-24	305.48	313.90	+8.42
25-29	208.33	217.32	+8.99
30-34	127.83	131.09	+3.26
35-39	69.27	66.23	-3.04
40-44	19.94	17.83	-2.11
16-44	132.66	141.34	+8.68

The average annual rate for the period of 1956-'60 indicates an increase in the age groups below 35 years and a decrease in others.

The increase in the Married Fertility Rates in younger age groups creates more uncertainty about the future trend. These females will continue to be in the child bearing age in the near future and can have large families if so desired. The present rise may foreshadow an increase

in the size of families in future, or it may be only a reflection of the attempt by married females to have completed families at an earlier age or within a short period after marriage.

Whatever be the future trend, the present rise in fertility in itself is a striking event. Coming against the background of a long term substantial fall in fertility, running through decades, it achieves added importance and deserves investigation from all aspects.

FIG. 9

The Marriage Rate per 1000 Total Population in Scotland from 1855 in 5-Year Averages

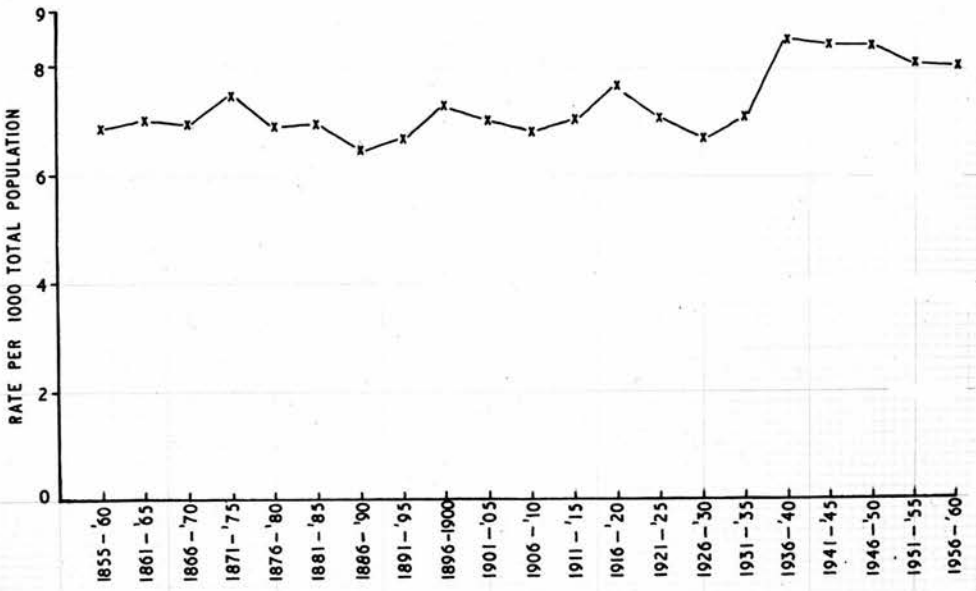
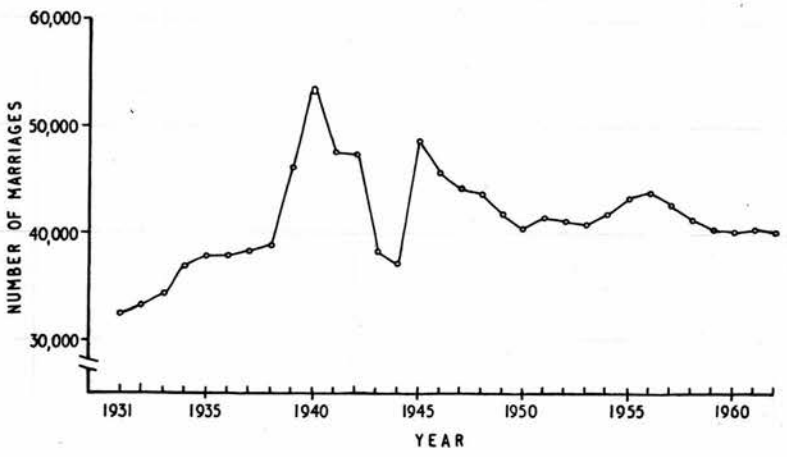


FIG. 10

THE ANNUAL NUMBER OF MARRIAGES IN SCOTLAND 1931 - 1962



THE TREND OF MARRIAGES IN SCOTLAND.

CHAPTER. 3.

The factors which determine the number of the legitimate births in any period are the number of the married couples in the population and the rate at which they have their children. It is necessary, therefore, to understand the prevalent trend in marriages and its possible effect on the fertility pattern.

THE MARRIAGE RATE.

The basic data on marriages in Scotland are presented in APPENDIX TABLES V - XII. Before 1939 the Scottish Marriage Rate, i.e., the number of marriages per 1000 population, remained fairly constant at about 7, excepting a sharp and short rise in the post-war period between 1919 and 1921. The rate of marriage rose sharply in 1939 with the outbreak of World War II. It reached a figure of 10.61 in 1940 and remained quite high till 1942. In 1943-44 the Marriage Rate came down to a figure round about 7. It was followed by an abrupt rise in 1945 after the end of hostilities. The Marriage Rate has remained high after World War II. Fig.9 shows the 5 - year average Marriage Rates in Scotland from 1855. The rate shows an important change in the 1930's. Prior to 1936 the Marriage Rate had never reached 8 per thousand of population in a 5 - year period. From 1936 the 5 - year Marriage Rate has never fallen below 8. This rise in the Marriage Rate is a reflection of a rising trend in the number of marriages which was evident in the 1930's.

THE RECENT INCREASE IN MARRIAGES.

The trend in the annual number of marriages in Scotland from 1931 is shown in Fig. 10. There were 32,652 marriages in 1931. After 1931 the number of marriages was increasing slowly. With the outbreak of the war there

FIG. 11

THE AVERAGE AGE AT MARRIAGE IN 10-YEAR PERIODS 1861-1960. ALL BRIDES

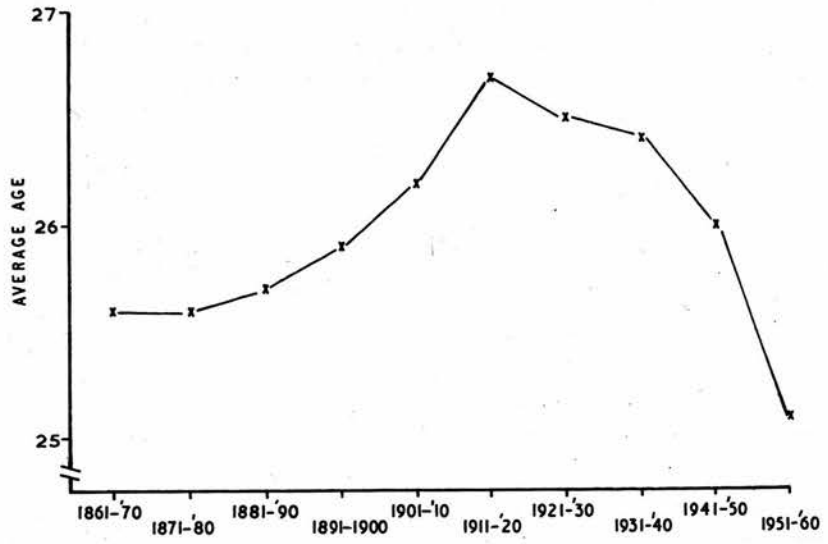
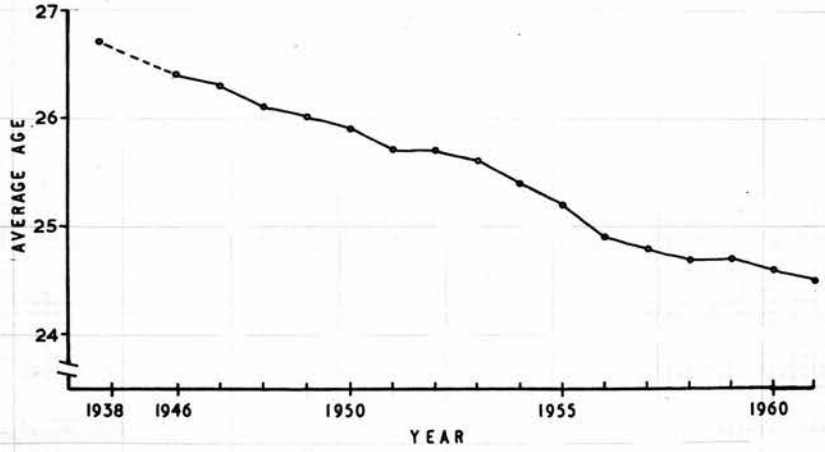


FIG. 12

THE AVERAGE AGE AT MARRIAGE IN SCOTLAND. ALL BRIDES 1938, 1946-1961



was a big rise. In 1940 it reached the figure 53,522, the highest for any year in Scotland. The figures remained high in 1941 and 1942. Although there was a fall in the number of marriages in the years 1943-44, it was still at the pre-war level. The great influx of marriages, once the war was over, made up the number that might have been deferred during the war. Surprisingly, the number of marriages has remained high for a long period and in spite of fluctuations there is as yet no indication of a reversion to the pre-war level.

THE FALL IN THE AGE AT MARRIAGE.

The rising trend in marriages in Scotland first seen in the 1930's was not an isolated phenomenon in Great Britain. It resulted from a reduction in the age at marriage in that period. The Royal Commission on Population observed that the reduction in age at marriage between 1932 and 1946 had produced over three-quarters of a million additional marriages in Great Britain during the period.

The average age at marriage for females in 10-year periods from 1861 is presented in Fig. 11. The average age at marriage remained constant till 1880. Then it increased slowly and was highest in the period of 1911-'20. Since then it has been declining. The fall in 1951-'60 is the maximum for any 10-year period and the average age at marriage for females in 1951-'60 is the lowest for any decade during the past 100 years. The decline in the average age at marriage for females after World War II is shown in Fig.12. In 1938 the average age at marriage was 26.7. There has been a progressive decrease in the average age at marriage after World War II. In 1946 the average age at marriage for all brides was 26.4. It came down to 24.5 in 1961. This continued fall in the age at marriage has

FIG. 13

THE PROPORTION OF MARRIAGES IN FEMALES AT AGES OVER 45 TO TOTAL MARRIAGES IN SCOTLAND 1938, 1946 - 1961

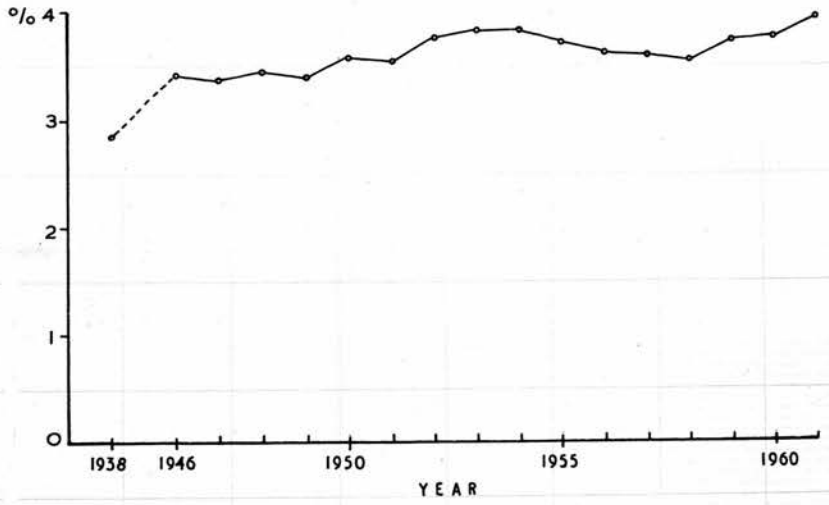
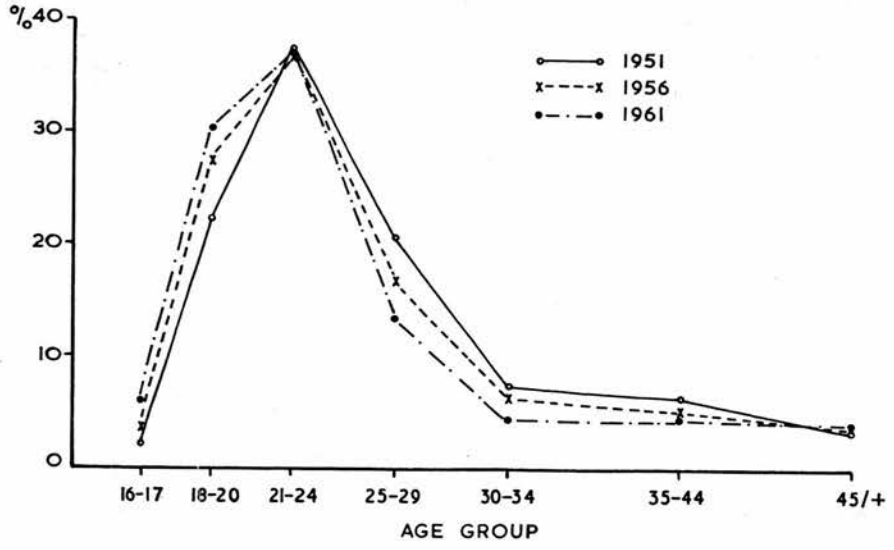


FIG. 14

PERCENTAGE DISTRIBUTION OF MARRIAGES (BRIDES) BY AGE GROUPS SCOTLAND 1951, 1956 and 1961



been the decisive factor in sustaining the high level in the number of marriages.

The number of marriages in females above the child bearing age in any year has its effect on the estimation of the average age at marriage. The number of marriages at ages over 45 was 1,101 in 1938 and has increased after the War. There were 1,563 such marriages in 1946. If we consider them at 5-year intervals, they numbered 1,458 in 1951, 1,587 in 1956 and 1,607 in 1961. Their proportions to total marriages have also been higher after the War. Fig.13 shows the changes between 1946 and 1961 from the 1938 level. The proportion of marriages at ages over 45 in 1946 was 3.41 per cent. compared to 2.84 per cent. of the 1938 distribution. It increased to 3.53 in 1951, 3.61 in 1956 and 3.96 in 1961. These increases have tended to offset the reduction in the average age at marriage by bringing in comparatively higher age periods in the estimation of the mean.

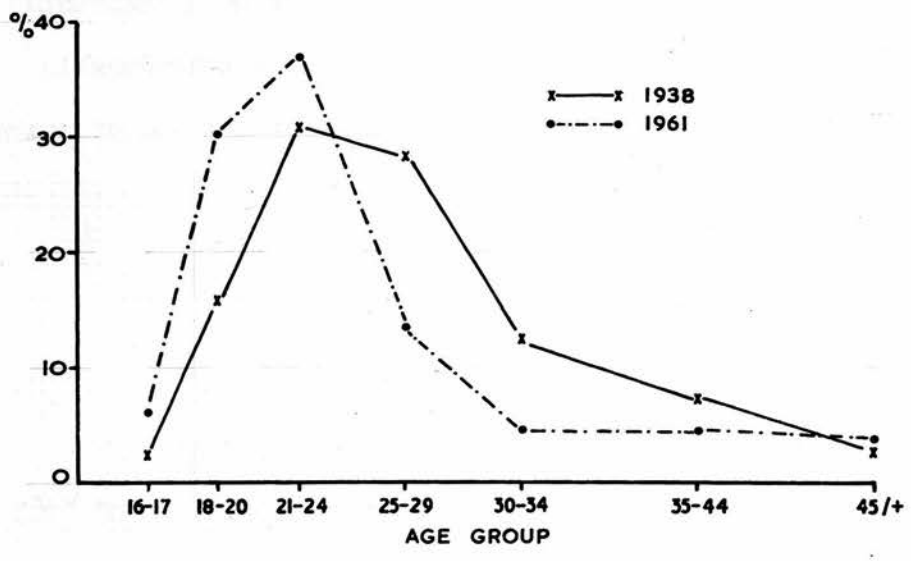
Fig.14 demonstrates how the marriage age has been shifting more and more to the earlier age groups in recent years. The percentages of brides by age groups for the years 1951,1956 and 1961 have been compared to show the shift at 5 years' intervals.

The proportion of marriages in the age groups under 21 show a progressive increase. The age groups between 25 and 44 years present a gradual decline in the proportional distribution.

Fig.15 illustrates the proportional distributions according to the age at marriage in the years 1938 and 1961. In 1938 the highest percentage of females marrying were in the age group 21-24 years. In 1961 there has been a further increase in this age group. In 1938 the percentage in the age group 21-24 was slightly in excess of those at ages 25-29. In 1961 the percentage in the latter group was less than half of those

FIG. 15

PERCENTAGE DISTRIBUTION OF MARRIAGES (BRIDES) BY AGE GROUPS SCOTLAND 1938 and 1961



between 21-24.

In 1938 the proportions of females marrying at ages 16-17 and 18-20 were 2.5 and 15.9 percent.of the total marriages respectively. The corresponding figures for 1961 were 6.1 and 30.2 percent. While in 1938 about one half of all marriages was in females aged below 25, three-quarters of all marriages in 1961 were in this group.

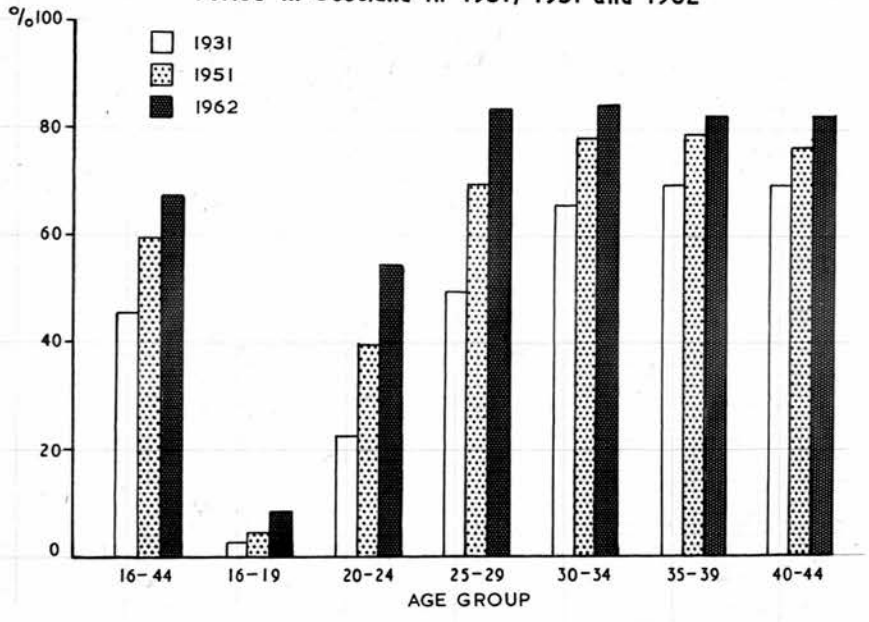
It is difficult to foresee the future trend in marriages. The Royal Commission on Population observed that the increase in the number of marriages since the 1930's represented, in the main, a "borrowing of marriages from the future". Although they expected a considerable reduction in the number of annual marriages over the subsequent years, they could not rule out a further fall in the age at marriage staving off the decline in marriages. A persistent trend of marrying earlier put off the drop in marriages in the recent past. It will continue to do so, so long as the reduction in marriage age is in progress. At present there is nothing to suggest a return to the pre-war age at marriage. There is also no indication that the marriage age of 1961 will be maintained in future without any further reduction.

INFLUENCES ON THE FERTILITY TREND.

The marriage habits of the females in recent years are expected to affect the fertility trend to a great extent. In addition to the present rise in number of married couples with consequent effects on the fertility rates, the changes in marriage habits will have an influence on the fertility trend in the long run by increasing(a) the number of females ultimately marrying before the end of child-bearing age and(b) the number of married couples in the younger age groups.

FIG. 16

The Proportion of Women Married at Various Ages Within Child Bearing Period in Scotland in 1931, 1951 and 1962



THE RISE IN NUMBER OF MARRIED FEMALES IN CHILD-BEARING AGE.

We have seen how a change in age at marriage has produced a great increase in the number of marriages. As a sequence to this increase in marriages, the proportion of married women in child bearing age has risen in Scotland. In 1931 the number of married females aged 16-44 was 508.3 thousands. Their number increased to 653.9 thousands in 1951. In 1962 they formed 678.4 thousands. This is a significant change. The rise in the number of married couples following a large number of marriages is expected to have its effect on the number of births. With the rise in the number of married couples, the number of annual births will be raised, even if they continue to have children at the same rate as before.

THE PROPORTION OF WOMEN MARRIED AT VARIOUS AGES.

The decline in age at marriage has resulted not only in an increase in the number of females married within childbearing period, there has also been an accompanying increase in the proportions married at younger ages as well. This is illustrated in Fig.16. In 1951 the proportions married in the age groups 16-19, 20-24, 25-29, 30-34, 35-39 and 40-44 were respectively 4.4, 39.5, 69.7, 78.3, 79.2 and 76.4 percent. In 1962 the corresponding proportions rose to 8.5, 54.6, 83.8, 84,5, 82.6 and 82.8 percent. If figures of 1931 are taken into consideration a progressive rise becomes evident.

THE PROPORTION ULTIMATELY MARRYING.

In spite of fluctuations in the annual number of marriages from one year to another, or for several years together, the proportion of a generation who marry before the end of child bearing age, may remain stable. The fact that females are marrying earlier does not necessarily mean that a greater proportion of a generation will ultimately marry. On the basis of past experience, it can be presumed that the proportion of women in a

generation who will ultimately marry is likely to be higher if that generation has shown high proportion married at young ages. (Royal Commission on Population; Population Studies No. 27, United Nations). Estimates based on data for the age groups 40-44 and 45-49 years, show that the proportion of a generation of women ultimately marrying before the age of 45, has increased in Scotland since 1930. In 1931 the proportion of ever-married women at the age of 45 was 77.5 percent.of the total women at that age. It increased to 80.5 percent.in 1951 and to 86.2 percent.in 1962. The proportion of a generation which ultimately marries has its importance. In view of the present trend in marriages, the proportion of females ultimately marrying before the end of the child bearing age is expected to be still higher,and this will create a potential for an increase in the number of children born to a generation.

THE SIZE OF THE FAMILY.

We have outlined how the change in the marriage habits has increased the number of married females at present and is likely to produce more marriages in a generation. There is another aspect of this change. It has greatly increased the number of married couples in the younger age groups. This change will have far reaching effects on the fertility trend.

Females who marry younger have larger families. The average family size of females according to age at marriage has been studied in the Family Census of 1946. In females who had married at an earlier age, the average family size was bigger. The size of the family decreased with the increasing age at marriage. This trend of larger families in females married at earlier ages was evident in each of the two social status groups - the non-manual and the manual workers.

FIG. 17

Percentage of Childless Women Aged 45–49 at the Date of 1951 Census in Scotland

Married Once Only and Enumerated with Husband
Classified by Age at Marriage

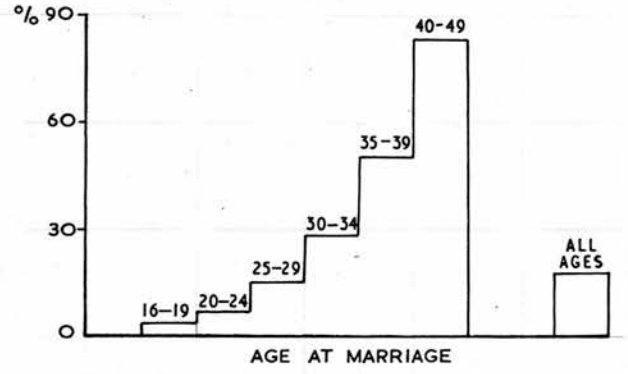
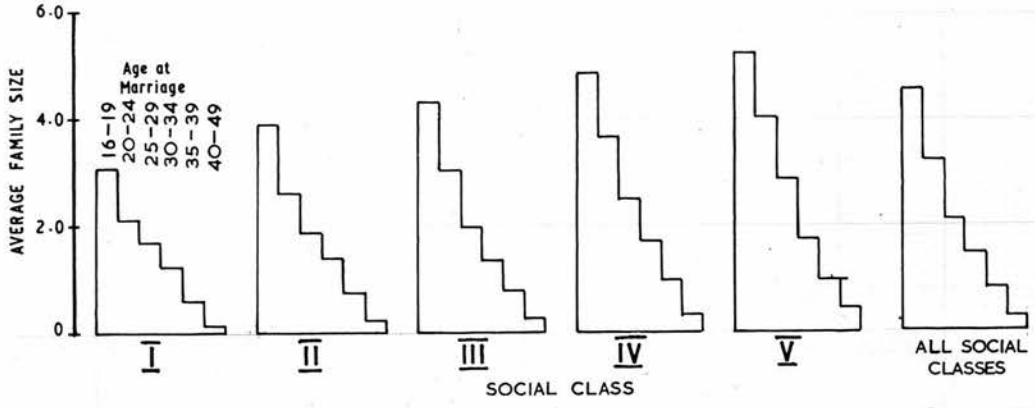


FIG. 18

MEAN FAMILY SIZES IN WOMEN AGED 45-49 AT THE DATE OF 1951 CENSUS SCOTLAND

Married Once Only and Enumerated with Husband
Distribution by Social Class of Husband and by Age at Marriage



More recently, the completed fertility in females according to age at marriage in five social classes has been studied in a sample of women aged between 45 and 50, and enumerated in the 1951 census in Scotland. Appendix Table - XIII relates to the proportion of childless women on the basis of the age at marriage. Appendix Table XIV presents the data on the average family size. Fig.17 illustrates the differences in the proportions of childless women. The proportion decreases in females with an earlier age at marriage. The higher the age at marriage, the greater is the proportion of childless marriages. 4.2 percent are found at the ages 16-19, compared to 50.7 percent in 35-39 age group.

The average family size shows a steady increase from social class I to social class V. In social class I the mean family size is 1.57. The highest mean family size is in social class V and is 3.36. This trend of a larger family size as the social class changes from I to V, is also true for the different ages at which the women were married. The women with age at marriage between 16-19 have a mean family size of 3.08 in social class I. It increases to 5.25 in social class V. Similar rising pattern is seen in each age group according to age at marriage. In an individual social class the mean family size falls as the age at marriage becomes higher. In social class I the mean family size is 3.08 in females married at ages of 16-19, compared to 0.60 in the group with marriage age between 35-39. A declining trend of family size in females married at later ages is evident in all the social classes. This is illustrated in Fig.18. It is clear, therefore, that a trend of bigger families in females married in earlier age groups persists irrespective of the Social Class to which they belong.

The increase in the number of married couples in the earlier age groups is indeed a vital change. Being conducive to larger families it will influence the fertility trend for many years to come.

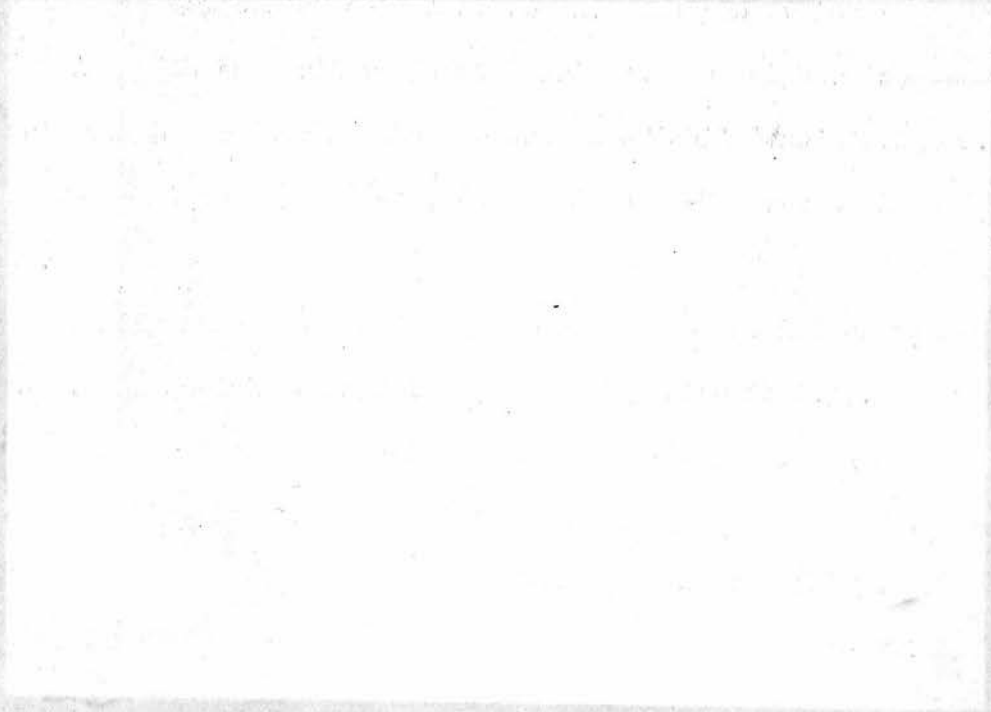
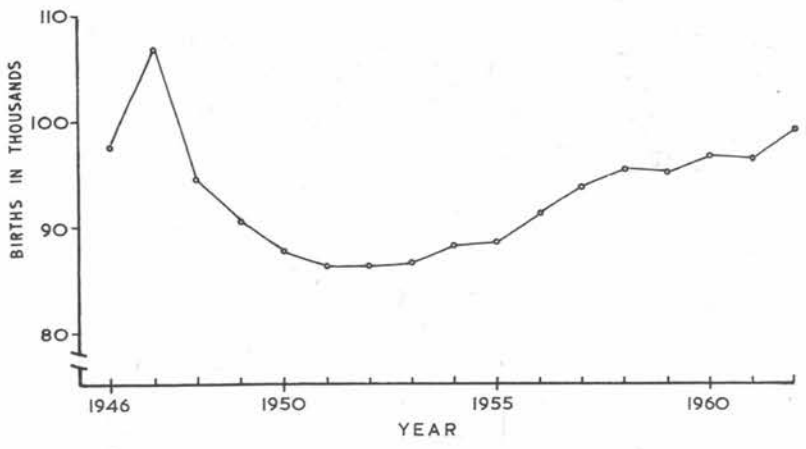


FIG. 19

LEGITIMATE BIRTHS IN SCOTLAND 1946–1962



ANALYSIS OF DATA IN SCOTLAND ON LEGITIMATE BIRTHS

CHAPTER 4.

It has been stated in Chapter 2 that the Married Fertility Rate increased during 1956-60 after attaining the lowest figure during the preceding 5 years. This increase was present in females aged below 35 years. We shall now proceed to analyse the data on legitimate births.

In the Annual Reports of the Registrar General for Scotland legitimate births are tabulated by age of mother, birth order and duration of marriage. We shall compare those data on the basis of 5 - year averages to find out the changes occurring during 1956 -'60 and to attempt to measure them. We shall also try to evaluate the significance of these data as a guide in the study of current fertility trends.

The analysed data are presented in Appendix Tables XV - XXII.

After World War II the number of legitimate births leapt up to reach a peak of 106,836 in 1947. It was associated with a post-war peak in the Crude Birth Rate as well as in the Married Fertility Rate. Fig.19 shows the variations in the annual number of legitimate births from 1946. The number of legitimate births fell in 1948. Further fall continued till 1951. After a slow beginning in 1952, the number of legitimate births started to increase and in 1958 it was higher than the 1948 figure. This upward trend in legitimate births has been reflected in the Crude Birth Rate and the Married Fertility Rate since 1953. In 1962 legitimate births totalled 99,314, the highest figure since 1947 and reminiscent of the early part of the 1920's. The average annual number for 1946-50 was 95,403. It declined to 87,106 in the period 1951-55. During 1956-60 the average annual number rose to a figure of 94.522. This was less than 1 percent.

FIG. 20

The Proportional Distribution of the Rise in the Age Groups 16-19, 20-24, 25-29 & 35-39 in the Period 1956-'60 in Comparison to the Period 1951-'55

Based on Average Annual Number of Legitimate Births by Age of Mother

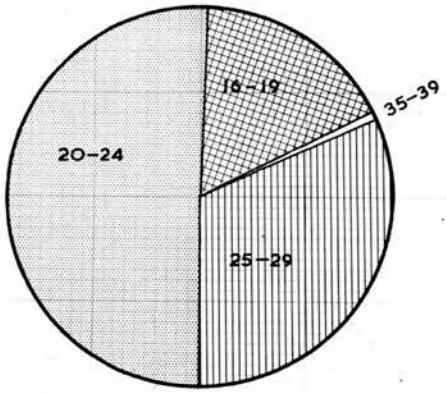
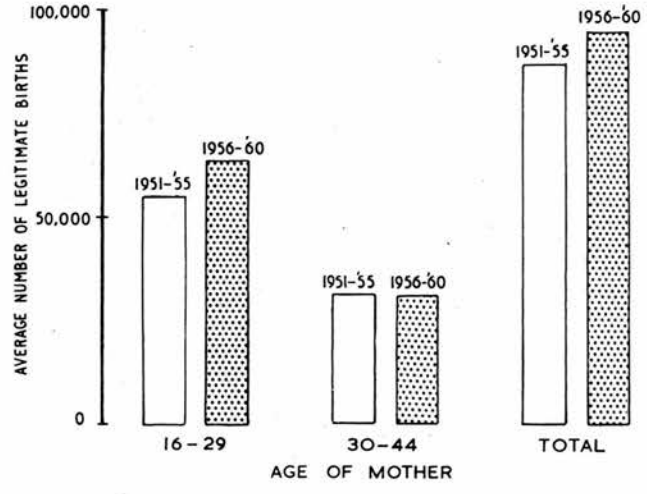


FIG. 21

The Comparison of Average Annual Number of Legitimate Births by Age of Mother in Two 5-Year Periods 1951-'55 & 1956-'60



below the 1946 -'50 figure. The legitimate births in the years 1961 and 1962 were more than the annual average of the period 1946-'50 by 1,118 and 3,911 respectively and showed an increase varying between 1 and 4 percent.

In recent years there have been more births in younger mothers. The comparison of 5 - year averages shows an increase in the age groups 16-19, 20-24, 25-29 and 35-39 during 1956-'60, and a decrease in all others. In 1951-'55 the average annual number of births was 64,921 in age groups 16-19, 20-24, 25-29 and 35-39 taken together. The number increased to 73,120 during 1956-'60. This rise of 8,199 births was not distributed uniformly among the four age groups. Fig.20 indicates the proportional distribution among the four age groups contributing to the rise of 8,199 births. The age groups 16-19, 20-24, 25-29 and 35-39 have contributed 17.1, 50.6, 31.7 and 0.7 percent. respectively of the total increase of 8,199. The rise in the age group 35-39 is very small in comparison to other three age groups. These figures suggest that the increase in legitimate births in 1956-'60 was essentially due to a rise in births occurring to females aged below 30 years.

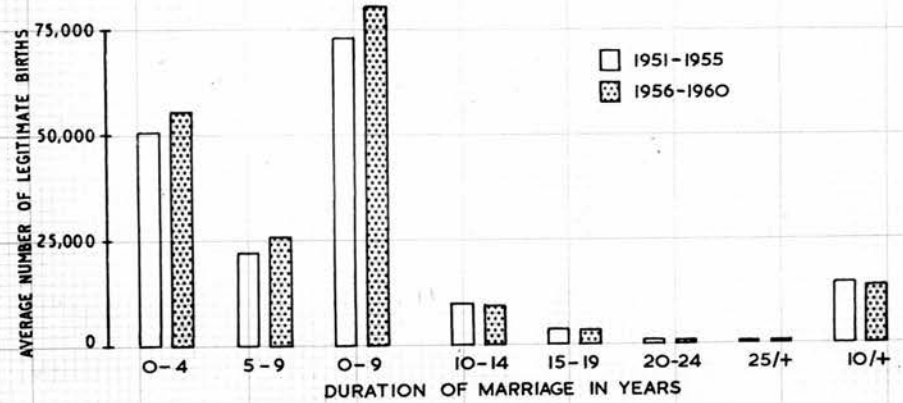
We can outline this trend more clearly if we compare the births in two 5 - year periods by dividing mothers in two groups viz. those aged below 30 years, and those aged 30 years or more. Fig. 21. illustrates the changes. The average annual number of legitimate births in the period 1956-'60 was 94,522. This is 8.5 percent over the 1951-'55 figure of 87,106. The average annual number of births in females aged 16-29 during 1956-'60 was 63,291 compared to 55,149 in 1951-'55. This increase represents a rise of 14.8.percent. from the 1951-55 figure of births in females aged

FIG. 22

Average Annual Number of Marriages in Three 5-Year Periods 1946–'50 1951–'55 & 1956–'60 by Age of Bride at Marriage

FIG. 23

Average Annual Number of Legitimate Births by Duration of Marriage in Two 5-Year Periods, 1951–'55 and 1956–'60



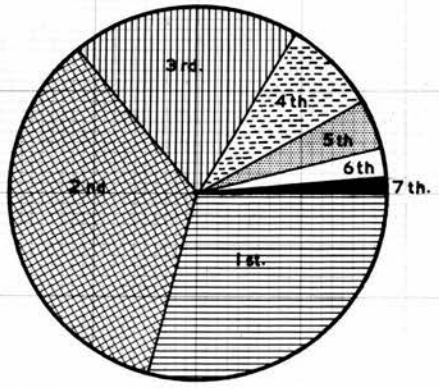
below 30 years. In females aged 30-44 the average annual number of births decreased to 31,045 in 1956 - '60 from 31,687 in 1951 - '55 showing a fall of 2 percent.

What is the significance of this rise in births in earlier age groups? We have outlined previously how the average age of women at marriage has declined progressively due to a rising trend in marriages at younger ages. We can examine the average annual number of marriages according to age at marriage during the three 5-year periods after World War II. Fig.22 illustrates the changes. In the 16-19 age group there were 5,764 marriages in the period 1946-50. The number increased to 6,749 in 1951-55, and to 9,026 in 1956-60. As the number of marriages in the age groups between 25-44 years has declined, the addition of more and more marriages at the earlier ages has taken place. The rise in the number of newly-married females in earlier age groups is expected to augment the number of births occurring to young mothers. On this assumption, the rise in births should be essentially in those who have been married recently. We can find out the duration of marriage of the females who contributed to the rise in births during 1956-60 from the available data.

It is evident from Fig. 23 that in comparison to the 1951-55 period, the average annual number of births increased during 1956-60 in all durations of marriage except those of 10-14 years and 20-24 years. The great majority of births in two periods occurred at durations of less than 10 years. The division of married females into two groups viz., those married for less than 10 years, and those married for 10 years or more, presents a striking feature. In the group with the duration of marriage less than 10 years the average annual number of births was 7,746 more in 1956-60 than the 1951-55 figure,

FIG. 24

The Proportional Distribution of the Increase in the Average Annual Number of Births in the Period 1956-'60 from the 1951-'55 Figure in Birth Ranks 1 to 7



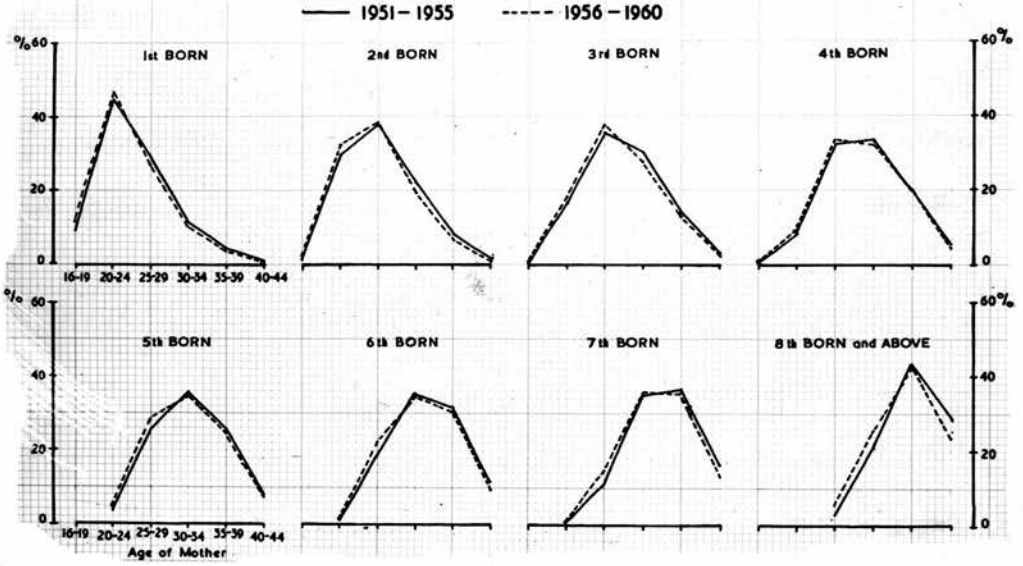
whereas the other group showed a decrease of 332 in 1956-'60. If we divide the former group further, it is found that the increase in those married for 4 years or less, is comparatively more than that in others. The rise in this section amounts to 4620 forming 59.6 percent. of the figure 7746. We know the net increase in the average annual number of births amounted to 7416 in 1956-'60. The rise in the group married for 4 years or less is equivalent to 62.4 percent. of this net increase.

These data do indicate that the rise in births in 1956-'60 was mainly a result of births occurring to the couples who had been married recently. As the major part of the rise in births is due to couples having children in the early part of their married life, it can be assumed that this will result in the rise in the earlier birth orders. The average annual number of births by birth order for the periods 1951-'55 and 1956-'60 presents some differences. In 1956-'60 births below birth order of 8 increased in comparison to the previous 5 - year period, while those in later birth ranks declined. During 1956-'60 the average annual number of births in birth ranks of 8 and above was 1,618 and showed a fall of 203 from the 1951-'55 figure.

The average annual number of births below birth order of 8 was 85,198 in the period 1951-'55 and increased to 92,871 in later period. This shows a rise of 7,673 from the 1951-'55 figure. The proportional distribution of this increase of 7,673 births is illustrated in Fig.24. It shows a maximum rise in the second born which constitutes about 35 percent. The 1st born and the 3rd born form 29.0 and 19.7 percent. respectively. The percentage becomes gradually smaller in higher birth ranks and varies between 1.2 and 8.1. This distribution of the increase is compatible with our previous assumption.

FIG. 25

PROPORTIONAL DISTRIBUTION OF THE AVERAGE ANNUAL NUMBER OF BIRTHS OF EACH BIRTH ORDER BY AGE OF MOTHER IN TWO 5-YEAR PERIODS 1951-'55 and 1956-'60



In the Annual Reports of the Registrar-General for Scotland analyses are given of all legitimate births according to birth order by the age of the mother, and the duration of marriage. We shall now compare the distribution of average annual number of births according to birth order in the two 5-year periods, 1951-'55 and 1956-'60, by age of mother and duration of marriage. In the ensuing analysis the figures for the present marriage have been taken.

The proportional distribution of the average annual number of births of each birth order by age of mother is shown in Fig.25. Compared to the 1951-'55 period, during 1956-'60 there was a rise in the proportion of births in the first birth rank in age groups below 25 years, and in second to sixth birth ranks in age groups below 30 years. The proportions of births in other birth orders were also comparatively more in earlier age groups. Among females having first birth 53.3. percent. were aged below 25 years during 1951-'55. In 1956-'60 this proportion rose to 58.3 percent. 68 percent. of females having second birth during 1951-'55 were aged below 30 years, compared to 72.9 percent. in 1956-'60. 52.5 percent. of females having third birth during 1951-'55 were below 30 years. The corresponding proportion in 1956-'60 was 56.5 percent. Similarly the proportion increased from 41.1 percent. to 43.1 percent. in case of fourth birth, from 29.7 percent. to 32.6 percent. in fifth birth, and from 19.9 percent. to 23.7 percent. in sixth birth. Among women having births in later birth ranks the proportion of those aged below 35 years was higher in 1956-'60 in comparison to the preceding 5-year period. Two factors which can bring such a change are (a) earlier age at marriage resulting in earlier child bearing, and (b) shorter intervals between births.

FIG. 26

THE DISTRIBUTION OF THE AVERAGE ANNUAL NUMBER OF BIRTHS OF EACH BIRTH ORDER BY DURATION OF MARRIAGE 0-4yrs, 5-9yrs, 10/+yrs IN TWO 5-YEAR PERIODS 1951-1955 and 1956-1960

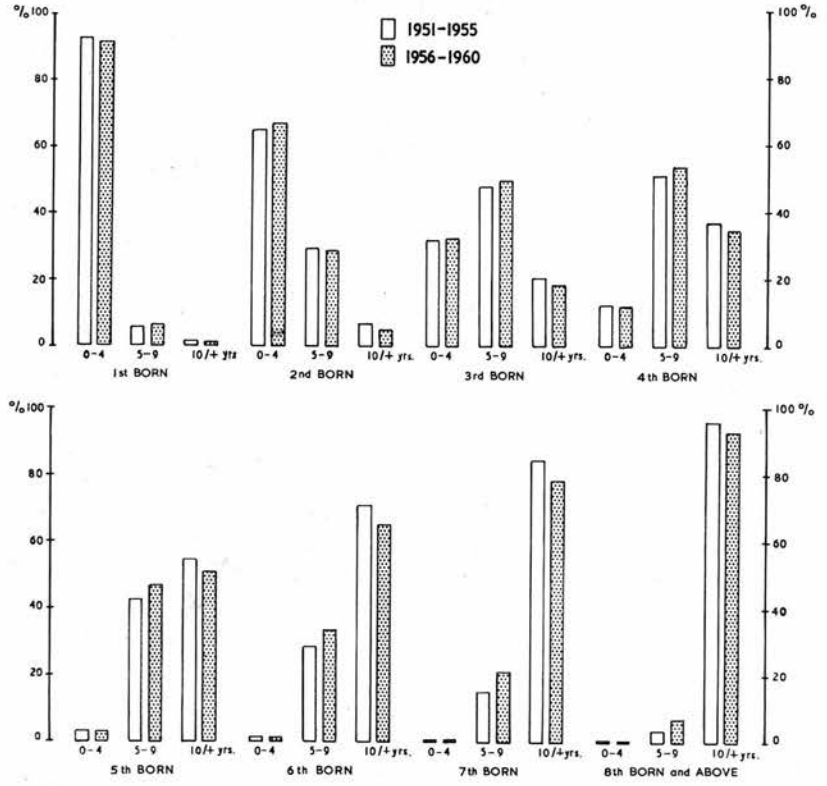
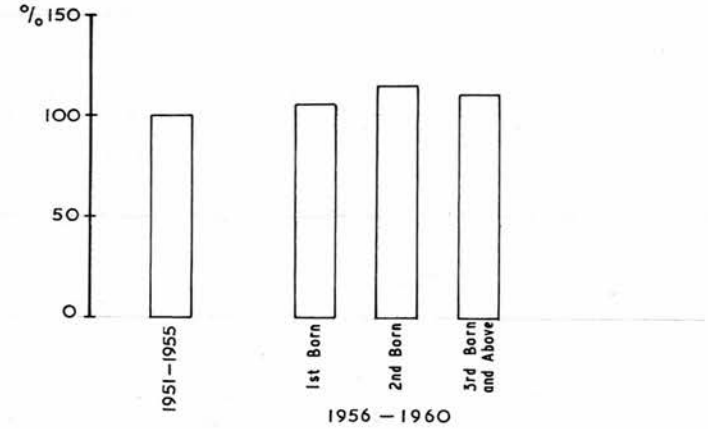


FIG. 27

The Ratio of Rise in Different Birth Ranks in the Average Annual Number of Legitimate Births in the Period 1956-60 for Females Married Less than 5 Years

The Average Annual Number of Births in Corresponding Groups in the Period 1951-'55 has been taken as 100



That the first factor played its role to bring in this change is undoubted. It is difficult to assess the extent to which the other factor has acted. We shall now proceed to examine that.

The proportional distribution of the average annual number of births of each birth order by duration of marriage in the periods, 1951-55 and 1956-60 has been compared in Fig.26. Among women who were married for 10 years or more, the proportion of births in all birth orders declined during 1956-60 in comparison to the 1951-55 period. Among women who were married for 5-9 years the proportions of all other birth orders except that of 2nd born showed an increase during the period 1956-60. The group married for less than 5 years presented more variations. In this group there were 92.4 percent. of 1st born in 1951-55. It declined to 91.8 percent. in 1956-60. The proportion of 2nd born increased in 1956-60 from 64.5 percent. to 66.3 percent. Minor differences were also present in other birth orders, 3rd born and 7th born showing a rise in 1956-60 and others a decline.

FIG.27. demonstrates the ratio of rise in different birth ranks in the group of females married for less than 5 years during 1956-60, in comparison to the preceding 5-year period. The average annual number of births in the group married for less than 5 years was 50,739 in 1951-55 and 55,384 in 1956-60, excluding births where birth orders were not known. This increase was shared by different birth ranks. The number of 1st born increased from 29,399 in 1951-55 to 31,223 in 1956-60, a rise of 6.2 percent. The number of 2nd born increased from 15,802 to 18,019, a rise of 14 percent. The number of other birth ranks taken together increased from 5,538 to 6,142, a rise of 10.9 percent.

The analysed data in the foregoing paragraphs do suggest that in 1956-60 a higher proportion of couples had their 2nd child within 5 years after

marriage. "Under modern habits of "Family Building", about four-fifths of all the children born to a group of married couples are born in the first 10 years of married life". This was noted by the Royal Commission on Population. It seems that births in the earlier part of married life have been accelerated further and an attitude of more births soon after marriage may be one of the causes lying behind the increase of births in 1956-60.

THE COHORT ANALYSIS.

CHAPTER- 5.

I. Scope of Study.

The analysis of data on legitimate live births in Scotland in the 1950's shows an increase of 8.5 per cent. in the 5-year average during the period 1956-60 from the preceding 5 years. The rise is evident in relatively young mothers, mainly occurs in the early part of married life and in low parities.

Does this trend of increase in births indicate a change in the pattern of fertility? Or,is it only the result of births occurring to the increased number of newly-wed couples in earlier age groups?

With our present knowledge it is not possible to have a definite answer to these questions.

Statistical data on births, as detailed previously, are valuable no doubt, but they do not reflect precisely the pattern of fertility. They relate only to those couples who had children in particular calendar years, and so do not convey any idea about the incidence of births and their spacing in any cohort. Averages for 5-year periods represent cumulative effects of births occurring to varying sections of different cohorts. Such figures are likely to mask the fertility trend of any individual cohort during the period, and cannot be accepted as an index for the same. In addition, the available data on births provide no opportunity to study the influence of age at marriage on fertility.

It is but natural that recent trends in the annual number of marriages, and in age at marriage will tend to bring changes in the trend of births similar to those noted in the later part of the 1950's. It is, however, debatable whether they fully account for the changes observed.

The possibility of a shift in the timing of births, as one of the contributory

factors, cannot be completely ruled out. On the other hand, the conclusion that a change has taken place in the family-building habits of couples married in recent years, will remain only a surmise in the absence of a confirmation by a comparative cohort analysis.

Our knowledge about the fertility of recent cohorts in Scotland is limited. The Report on Fertility of Marriage of the 1951 Census in Scotland shows the fertility of each cohort, according to age at marriage at the census date. After 1951 a remarkable contrast in the trend of births has been witnessed in Scotland.

In view of the lack of information on cohort fertility in Scotland in the 1950's, it was considered necessary to undertake cohort analysis for 2 groups of married couples - one from each of the two 5-year periods to find out whether there has been any suggestive change in the pattern of fertility. The cohorts of the first year of the two 5-year periods, 1951-55 and 1956-60, have been compared in the present study. The fertility of two groups of marriages, one of 1951 and the other of 1956, has been followed from the year of marriage through the subsequent 5 calendar years. This has brought the first five years of married life for each couple within the review of the present study. The fertility of each cohort has been studied prospectively.

II. Collection of Material and Method of Study.

The collection of materials for the study presented difficulties.

The 'Birth-cards' coded for the tabulation of the data in the Annual Reports of the Registrar-General for Scotland, did not contain the names of the parents or any other clue by which they could be identified and linked with married couples.

The 'Birth-Registration Forms' from which the data on births were collected, were available for a few years only, and not for the entire period under study.

The Registers, maintained in the Registration Centres for marriages and births, were available. In the present study an attempt has been made to find out the family pattern of married couples by linkage of records available in Birth-Registers with those taken from Marriage-Registers.

Geographical Region.

The samples of marriages have been taken from the Marriage-Registers of the County of Aberdeen, and the County of the City of Aberdeen. The area included in the study is shown in the map. (Appendix A). A sample covering the whole of Scotland, though ideal, was not preferred. The search of birth-records for such a sample of marriages scattered throughout the country would have created an unsurmountable problem. Moreover, in such a sample a selection, pertaining to social class, or age at marriage, or both, might creep in. It was necessary to have a sample unbiased and at the same time with the prospect for a follow-up. It should also reflect changes in the trend of marriages in Scotland in the proper perspective. It was desired to have the samples from a geographical region including a city, so as to include different gradations of urbanisation. As the cities of Glasgow and Edinburgh were considered too large for the purpose, the city of Aberdeen which is the third largest city in Scotland was chosen. The area selected for the present study has a fair representation of the Burghal and Landward populations. (Appendix B).

Cohorts.

Each cohort consists of all marriages

(1) which were contracted in one calendar year, from 1st of January to 31st December,

(2) in which both the partners were residents in the region selected for the study, and

(3) in which bride's age at marriage was below 50 years.

The samples were taken for two calendar years - one for 1951 and the other for 1956.

Females married at ages 45 to 49 years are exposed to the risk of child birth, even though it is minimal. Marriages with bride's age at marriage between 45 and 49 were grouped separately for the purpose of follow-up.

Births.

The information on births was collected from the Birth-Registers maintained in the city of Aberdeen and the remainder of the county of Aberdeen. After verification of names of parents, the date and place of marriage, birth-records were linked to the marriages. For the 1951 cohort births occurring till 31st December 1956 have been linked. For the 1956 cohort births occurring till 31st December 1961 have been linked.

Prenuptial births, registered after the date of marriage, have been included in the study. Both live and still births have been included. In the Annual Reports of the Registrar-General for Scotland in the 1950's stillbirths have been included in the number of previous children to determine the birth order. In the present study all births, live and still, have therefore been taken into consideration to avoid disparity. However, in the estimation of the average family size, and family size distribution in two cohorts still births have been excluded.

Limitation.

The study on fertility of cohorts by linkage of records has been preferred to postal contact or house-to-house questioning. Postal contacts would not have

been possible in a large number of marriages owing to changes in the address of the couples after marriage. The response to the request for completing a questionnaire for a personal study could not be anticipated. Lack of contact, poor or sectional response would have defeated the purpose of the study. House-to-house questioning was not undertaken for similar reasons. Cohort analysis by linkage of records has provided a sounder basis by complete elimination of selection. The limitation of the method adopted is that the number of births included in the study may be less than the actual number of births which occurred to a cohort .

The census of 1961 in Scotland suggests that between 1951 and 1961 there was a net migration of about 8,100 from the city of Aberdeen, and 17,200 from the county to other areas in the British Isles and to countries abroad. Although these figures have not been corrected for the temporary absence of persons on census night, they provide an approximate idea of the extent of migration.

Those couples who had emigrated from the region after marriage for a part or whole of the period under study, might have children whose births were not registered in centres covered by our search. The possibility of exclusion of those births, however, has been present for both the cohorts.

No correction has been done for death, separation, or divorce. All marriages have been considered unbroken for the entire period of follow-up. Re-marriages have not been excluded from the samples. All these factors tend to influence both samples equally. Consequently, their effects on comparisons between the two samples become negligible.

Method of Analysis.

The information available in the Registers of Marriage and Birth is given

in(Appendix C). The analyses have been done and results have been arrived at by manual sorting and tabulating. Hollerith Cards have not been utilised in the course of the present study. In calculation of spacing of births exact dates for marriage and births have been used. The duration of marriage has been calculated on the basis of number of completed years from the date of marriage. The duration groups have been designated as follows.

Duration group.	Period (in months) calculated from the date of marriage.
(1) Below one year.	Up to 12 months.
(2) One year.	From 12 to 23 months.
(3) Two years.	From 24 to 35 months.
(4) Three years.	From 36 to 47 months.
(5) Four years.	From 48 to 59 months.
(6) Five years.	From 60 to 71 months.

The number of marriages with age at marriage between 45 and 49 were 37 in the 1951 sample, and 31 in the 1956 sample. There were no births recorded for these groups during the period of follow-up. These marriages have been excluded from further analysis.

Brides married at ages between 16 and 44, have been grouped in quinquennial age groups on the basis of the age at marriage and their fertility has been followed. The age of the mother at the time of child-births has not been considered during analysis of the data.

Social class grouping has been based on the occupation of the husband at the time of marriage. The occupation was noted from the Marriage Registers. Each occupation was assigned a code number by reference to the classified list in the Registrar-General's Classification of Occupations of 1950 and the corresponding social class grouping was allocated. If the husband was not

gainfully occupied at the time of the marriage, or if the information about occupation of the husband was not available, the couple was placed in a separate group. The couples have been assigned to one of the five social class groupings as stated below.

Occupation of husband at the time of marriage.	Social class grouping.
(1) Professional, etc.	I
(2) Intermediate.	II
(3) Skilled.	III
(4) Partly skilled.	IV
(5) Unskilled.	V
(6) Not gainfully occupied, or information not available.	Not stated (N.S.)

III. Analysis.

1. Social class distribution.

The 1951 cohort consists of 2,066 marriages. Of these, 52 are in social class I, 233 in social class II, 1,124 in social class III, 395 in social class IV and 248 in social class V.

Among 2,289 marriages forming the 1956 cohort, there are 71 in social class I, 237 in social class II, 1308 in social class III, 383 in social class IV and 273 in social class V. The numbers in 'Not stated' group are 14 and 17 in the two samples.

In the absence of comparable figures for distribution of marriages in social classes in Scotland in 1951 and 1956, our samples cannot be assessed for a bias. Some differences exist between each of the cohorts and certain other samples based on the 1951 census in Scotland. The 20% sample surveyed for the study on fertility in the 1951 census shows the social class distribution

of married women under the age of 50 at the time of census.

From the report on 1 per cent. sample study the social class distribution of married females aged 16-44 can be estimated.

The proportion in each social class in two cohorts has been compared with those of the samples of the 1951 census in Table - A.

Table - A.

The proportional distribution according to social class.

(in percentages)

Social class	1951 cohort	1956 cohort	Scotland 1951 census	
			20 per cent. sample of married women under the age of 50.	1 per cent. sample of married women aged 16-44.
I	2.52	3.10	3.1	3.38
II	11.28	10.35	13.7	12.76
III	54.40	57.14	54.1	53.76
IV	19.12	16.73	17.1	18.24
V	12.00	11.93	12.0	11.85
N.S.	0.68	0.74	-	-

Compared to the 20 per cent. census sample, the 1951 cohort shows a fall in percentages in social class I and social class II, with an increase in social class III and IV. In the 1956 cohort, a rise is seen in social class III with a decline in social class II. A slight fall is also present in social classes IV and V. Compared to the two cohorts, the proportions in the 1 per cent. census sample are higher in social class I and II and less in social class III and V. The proportion of social class IV lies in between the figures of two cohorts.

The 20 per cent. census sample includes cohorts from 1921. Many changes have taken place in the social structure during the long period since 1921. It is reasonable to accept that the social class distribution of couples marrying in the 1950's will not be closely comparable to samples drawn from those who married during previous decades.

All social classes are well represented in our samples. The comparison of two cohorts, as shown in Table - B., presents minor differences in social class distribution.

Table - B.

Distribution of marriages by social class in two cohorts.

Social class	1951 cohort		1956 cohort		Difference in proportion from the 1951 cohort
	Number	Per Cent.	No.	Per Cent.	
I	52	2.52	71	3.10	+ 0.58
II	233	11.28	237	10.35	- 0.93
I + II	285	13.79	308	13.46	- 0.33
III	1124	54.40	1308	57.14	+ 2.74
IV	395	19.12	383	16.73	- 2.39
V	248	12.00	273	11.93	- 0.07
IV + V	643	31.12	656	28.66	- 2.46
N.S.	14	0.68	17	0.74	+ 0.06
Total	2066		2289		

In the 1956 cohort the proportion of marriages is more in social class I and social class III. It is less in other social classes.

As social class III forms a big group in comparison to others, social classes I and II, and social classes IV and V have been combined to provide more comparable figures. The percentages for the combined social classes, i.e. I and II, and IV and V in the 1951 cohort are 13.8 and 31.1 in comparison to 13.5 and 28.7 respectively in the 1956 cohort. On the other hand social class III forms 57.1 per cent. in the 1956 cohort, compared to 54.4 per cent. in the other cohort. A shift of occupations towards more skilled works has been the trend in the country and the minor rise in the proportion of social class III can be attributed to that.

2. Age distribution.

Of 2,066 marriages in the 1951 cohort, 356 are in 16-19 age group, 1047 in 20-24 age group, 399 in 25-29 age group, 134 in 30-34 age group, 83 in 35-39 age group and 47 in 40-44 age group.

In the 1956 cohort there are 2,289 marriages. The distribution shows 534 in 16-19 age group, 1,151 in 20-24 age group, 363 in 25-29 age group, 125 in 30-34 age group, 73 in 35-39 age group and 43 in 40-44 age group.

The distribution of marriages in quinquennial age groups according to age at marriage in two cohorts is shown in Table - C.

Table - C.

Distribution of marriages in quinquennial age groups according to age at marriage in two cohorts, and in Scotland in the years 1951 and 1956.

Age group	1951 cohort		1956 cohort		Difference in Percent. from 1951 cohort	Scotland (in percent.)		
	Total Number	Percent.	Total Number	Percent.		1951	1956	Difference from 1951
16 - 19	356	17.23	534	23.33	+ 6.10	14.99	20.56	+ 5.57
20 - 24	1047	50.68	1151	50.28	- 0.40	49.14	50.16	+ 1.02
25 - 29	399	19.31	363	15.86	- 3.45	21.53	17.50	- 4.03
30 - 34	134	6.48	125	5.46	- 1.02	7.82	6.38	- 1.44
35 - 39	83	4.02	73	3.19	- 0.83	4.08	3.30	- 0.78
40 - 44	47	2.27	43	1.88	- 0.30	2.45	2.09	- 0.36
16 - 44	2066		2289					

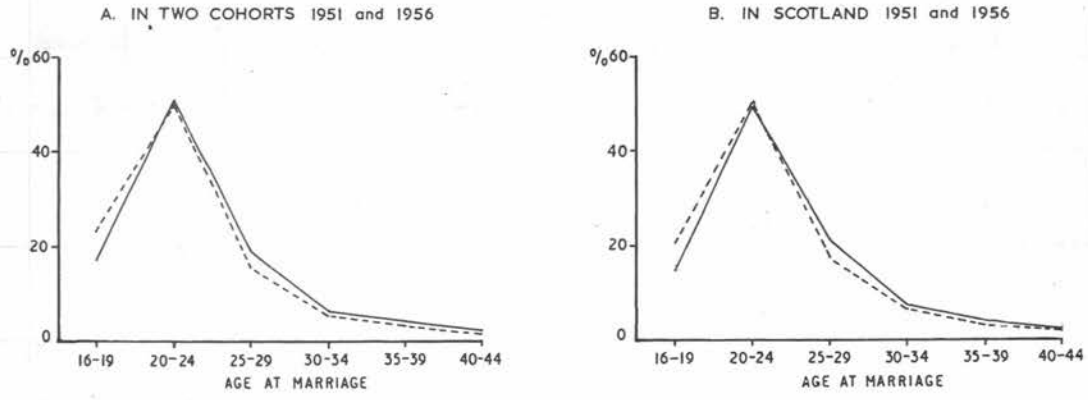
Some idea of the change in age at marriage may be obtained by comparing the distribution of marriages in two cohorts. In the 1951 cohort 50.7 per cent. of marriages were in the age group 20-24. The age group 25-29 comes next with 19.3 per cent. The 16-19 age group occupies the third position with 17.2 per cent. A gradual decline in proportion of marriages starts from the age group 30-34.

In the 1956 cohort the highest proportion of marriages continues to be in 20-24 age group with 50.3 per cent. The proportion of marriages in 16-19 age group has risen to 23.3 per cent. and is higher than that in the 25-29 age group. The decrease is seen from the age group 25-29 onwards. The proportions of marriages in higher age groups are comparatively less in the

FIG. 28

DISTRIBUTION OF MARRIAGES IN QUINQENNIAL AGE GROUPS ACCORDING TO AGE AT MARRIAGE

—— 1951 ----- 1956



1956 cohort. The shift in the distribution of marriages resulting from more morriages in earlier age groups in the 1956 cohort follows the trend evident in the corresponding years in Scotland. This is illustrated in Fig. 28.

In age groups between 30 and 44 years, marriages are small in numbers. They have been combined in some analyses to provide reasonable numbers.

3. Births-By Birth Order.

The number of births which have been linked to the 1951 cohort consists of 2,900, including 47 still births and 30 prenuptial births. 3,112 births, including 43 still births and 25 prenuptial births have been linked to the 1956 cohort. The distribution of births in two cohorts by birth order is shown in Table - D.

Table - D.

Distribution of births by birth order in two cohorts. Proportion of females of different parities having births by birth order.

Birth order	Number of births		Proportion of females in different parities having births by birth-order							
			Zero-Parity		One-Parity		Two-Parity		Three-Parity	
	1951 cohort	1956 cohort	1951 cohort	1956 cohort	1951 cohort	1956 cohort	1951 cohort	1956 cohort	1951 cohort	1956 cohort
1	1621	1734	78.5	75.8	-	-	-	-	-	-
2	908	1036	43.9	45.3	56.0	59.7	-	-	-	-
3	306	286	14.8	12.5	18.9	16.5	33.7	27.6	-	-
4	63	51	3.0	2.2	3.9	2.9	6.9	4.9	20.6	17.8
5	2	5	0.1	0.2	0.1	0.3	0.2	0.5	0.7	1.7

In the 1951 cohort the number of first born is 1,621. There are 908 births in second birth rank. The numbers of third born and fourth born are

respectively 306 and 63. In the 1956 cohort the number of first born is 1,734. There are 1036 births in second birth rank. The numbers of third born and fourth born are respectively 286 and 51. The number of the fifth born is small in both the cohorts, being 2 and 5.

Zero-Parity Women.

In the 1951 cohort there are 2,066 marriages. The number of marriages to which no birth could be linked is 445. Thus in the 1951 cohort 78.5 per cent. of zero-parity females have first born. In the 1956 cohort no births could be linked to 555 marriages in a total of 2,289. The proportion of zero-parity females having first born in the 1956 cohort constitutes 75.8 per cent.

The proportion of zero-parity females having second birth in the 1956 cohort is 45.3 per cent., compared to 43.9 per cent. of the 1951 cohort. In the 1951 cohort the percentages having third birth and fourth birth are respectively 14.8 and 3.0. The corresponding figures for the 1956 cohort are 12.5 and 2.2.

One-Parity Women.

Among 1,621 one-parity females in the 1951 cohort, those with a second born form 56.0 per cent., with the third born form 18.9 per cent. and with the fourth born form 3.9 per cent. In the 1956 cohort, there are 1,734 one-parity females. Of these, 59.7 per cent. have a second child and 16.5 per cent. have a third child and 2.9 per cent. have a fourth child.

Two-Parity Women.

In the 1951 cohort there are 908 two-parity females. Of these 33.7 per cent. have a third child and 6.9 per cent. have a fourth child.

In the 1956 cohort of 1,036 two-parity females, 27.6 per cent. have a third child and 4.9 per cent. have a fourth child.

FIG. 29

DIFFERENCES IN THE TWO COHORTS IN THE PROPORTION OF FEMALES OF DIFFERENT PARITIES HAVING BIRTHS BY BIRTH ORDER

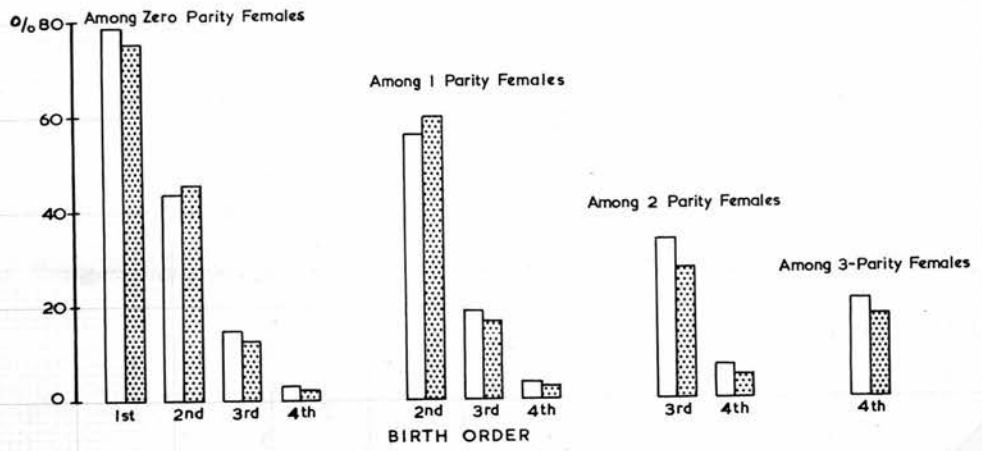
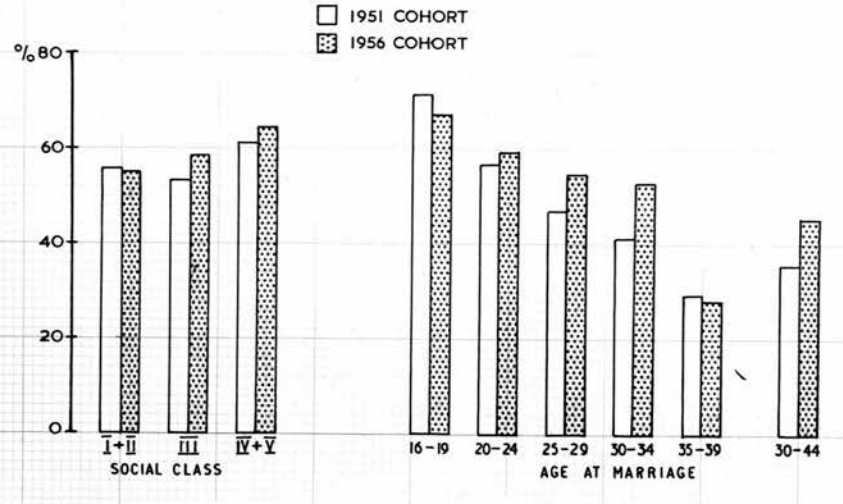


FIG. 30

THE PROPORTION OF ONE PARITY WOMEN HAVING A SECOND CHILD IN TWO COHORTS BY SOCIAL CLASS AND BY AGE AT MARRIAGE



Three-Parity Women.

In the 1951 cohort of 306 three-parity females 20.6 per cent. have a fourth child. The corresponding figure for the 1956 cohort is 17.8 per cent.

The proportion of zero-parity females with first births in the 1956 cohort is 2.7 per cent. less than that in the other cohort.

The proportion of one-parity females having a second birth is higher in the 1956 cohort and shows an increase of 3.8 per cent.

The proportions of females having third born and fourth born have decreased in all the parities in the 1956 cohort. Fig. 29 illustrates differences in the two cohorts according to parity.

It seems that in the 1956 cohort while there is a greater tendency to continue in zero-parity and to limit births after the birth of the second child, one-parity females have shown a greater tendency to have a second child.

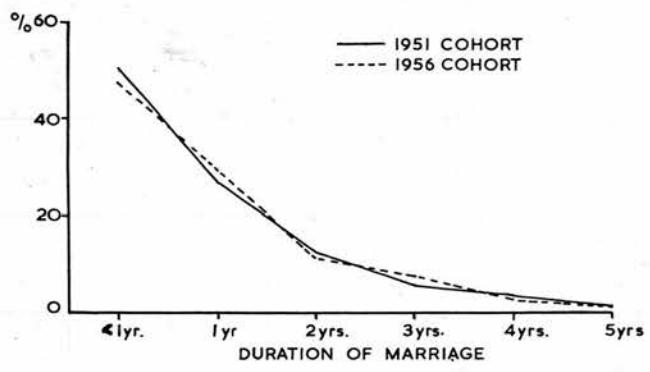
The incidence of second births in one-parity females in the two cohorts by social class and age group is presented in Appendix Table XXIII. Fig. 30 illustrates differences in two cohorts.

In the 1956 cohort a higher proportion of one-parity females have second birth in social class III, and social classes IV and V (combined). It has increased by 5.5 per cent. in social class III and by 3.3 per cent. in the latter. The proportion is slightly less in social classes I and II (combined) in the 1956 cohort.

The proportion of one-parity women having a second child is higher in the 1956 cohort in the age groups 20-24, 25-29 and 30-34. This rise amounts to 2.7, 7.6 and 11.8 per cent. respectively. The proportion is less by 1.3

FIG. 31

THE PROPORTIONAL DISTRIBUTION OF FIRST BIRTHS BORN AFTER MARRIAGE IN THE TWO COHORTS BY DURATION OF MARRIAGE



per cent. in the age group 35-39 in the 1956 cohort. There is no second birth in either cohort in the age group 40-44. Age groups above 29 years, taken as a whole, presents an increase by 9.5 per cent. in the proportion of one-parity females having a second birth in the 1956 cohort. The proportion of one-parity females with a second birth is less by 4.3 per cent. in the age group 16-19 in the 1956 cohort.

4. Spacing of First and Second Births.

We have found a higher proportion of women in the 1956 cohort having a second child. We shall now try to discover whether there has been any change in the spacing of second children in the 1956 cohort, in comparison to the other cohort. We have calculated the distributions of first and second births by duration of marriage. The basic data are presented in Appendix Tables - XXIV - XXVI.

Distribution of First Births by Duration of Marriage.

In the 1951 cohort there are 1,621 first births of which 28 are prenuptial births. In the 1956 cohort there are 1,734 first births, inclusive of 22 prenuptial births. If we exclude the prenuptial births, the number of first children born after marriage constitutes 1,593 in the 1951 cohort, and 1,712 in the 1956 cohort. Fig. 31 shows the proportional distributions of first births born after marriage in the two cohorts by duration of marriage. The proportion of births in the duration groups of one year and three years are higher in the 1956 cohort. In other duration groups the proportions are higher in the 1951 cohort. If the marriage duration is considered on the basis of two periods viz. below 2 years, and 2 years and more, no difference is found between the two cohorts. In each cohort the percentage of first births occurring within 2 years after marriage is almost the same and forms 77 per cent. However, some difference is present within this group. In

FIG. 32

THE PROPORTION OF FIRST BIRTHS BORN WITHIN 8 MONTHS AFTER MARRIAGE IN THE TWO COHORTS (A.) BY SOCIAL CLASS and (B.) BY AGE AT MARRIAGE

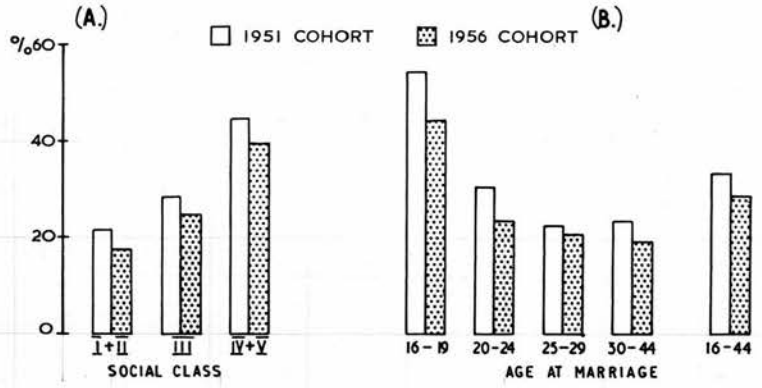
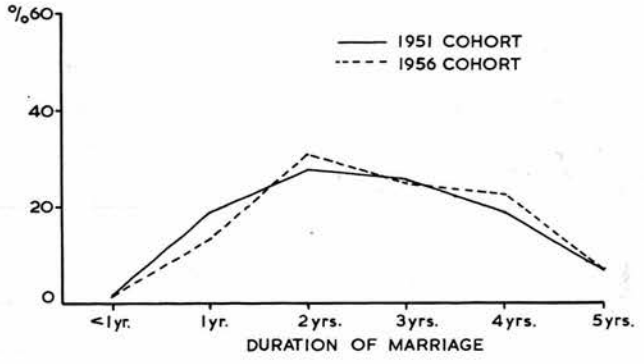


FIG. 33

THE PROPORTIONAL DISTRIBUTION OF SECOND BIRTHS BORN AFTER MARRIAGE IN THE TWO COHORTS BY DURATION OF MARRIAGE



the 1956 cohort a fall of 2.4 per cent. is seen in the proportion of births in the duration group of below 1 year, in comparison to the other cohort. This decline has been balanced by an increase of 2.5 per cent. in the duration group of one year. An accompanying fall in the proportion of first births within 8 months after marriage is evident in the 1956 cohort. This is illustrated in Fig. 32. The proportion of first births born within 8 months after marriage shows a fall of 4.6 per cent. in the 1956 cohort. The fall is seen in all age groups below 40 years. In the age group 40-44 years there is only one birth within 8 months in each cohort. In the 16-19 age group it has declined from 54.3 per cent. to 44.3 per cent., in 20-24 age group from 30.3 per cent. to 23.5 per cent., and in 25-29 age group from 22.5 per cent. to 20.7 per cent. In the remaining age groups taken together the decline is from 23.5 per cent. to 19.9 per cent. A fall in the proportion of births within 8 months after marriage is also seen in social class groupings. In social classes I and II (combined) the percentage has decreased from 21.7 to 17.8, in social class III from 28.5 to 24.7, and in social classes IV and V (combined) from 44.7 to 39.5.

Distribution of Second Births by Duration of Marriage.

In the 1951 cohort there are 908 second births. In the 1956 cohort there are 1,036 second births. The numbers of prenuptial births are 2 and 3 in the two cohorts respectively. The number of second children born after marriage thus constitutes 906 in the 1951 cohort and 1,033 in the 1956 cohort. Fig. 33 illustrates the proportional distribution of second births born after marriage in the two cohorts, by duration of marriage. The proportions of births in the duration groups of two years, four years and five years are higher in the 1956 cohort. In other duration groups the proportions are higher in the 1951 cohort. The differences are present mainly in the duration groups of

FIG. 34

RATIO OF AVERAGE NUMBER OF LIVE BORN CHILDREN AT THE TIME OF MARRIAGE IN THE 1956 COHORT TO THAT OF THE 1951 COHORT WHICH HAS BEEN TAKEN AS 1000

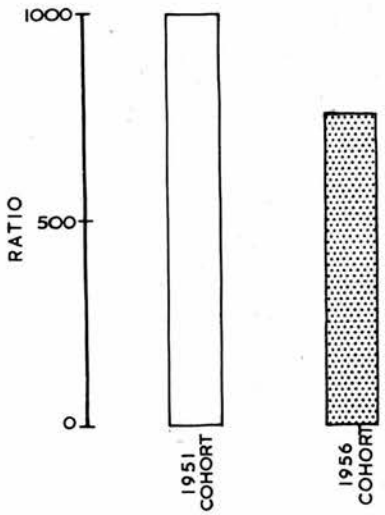
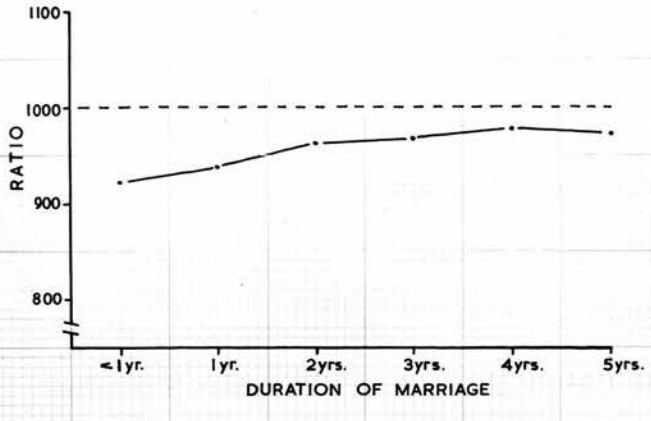


FIG. 35

RATIO OF MEAN FAMILY SIZE AT DIFFERENT DURATIONS OF MARRIAGE OF THE 1956 COHORT TO THAT OF THE 1951 COHORT

THE MEAN FAMILY SIZE OF THE 1951 COHORT HAS BEEN TAKEN AS 1000



one year, two years and four years. The proportion of second births in the duration group of one year is less by 5.7 per cent. in the 1956 cohort in comparison to the other cohort. In the duration groups of two years and four years the proportions are higher by 2.9 and 3.2 per cent. respectively in the 1956 cohort.

From the analysed data we have found that in the 1956 cohort the proportions of first and second births are comparatively smaller at the shorter durations of marriage.

5. Mean Family Size.

We have estimated the mean family size at successive stages during the period of follow-up from cumulative numbers of children born to each cohort, by social class and age group. We have also studied the distribution of the size of family in the two cohorts, by social class and age group. We have excluded still births for estimating the mean family size, and the distribution by the size of the family. Prenuptial births have been included in such calculations. The basic data are presented in Appendix Tables - XXVII - XXX.

In the 1956 cohort the number of marriages is more but the number of prenuptial births is less, in comparison to the 1951 cohort. Consequently, the average number of live-born children in the 1956 cohort at the time of marriage is smaller. This is shown in Fig. 34.

Fig. 35 illustrates the mean family size at different durations of marriage in two cohorts. Compared to the 1951 cohort, the average family size is found to be smaller in the 1956 cohort at successive stages. The difference in the average family size between the two cohorts is maximum at marriage durations of less than 1 year, and minimum at marriage durations of 4 years. This trend in average family size reflects the changes evident in the 1956 cohort in the spacing of first and second births which we have examined previously.

FIG. 36

RATIO OF MEAN FAMILY SIZE AT DIFFERENT DURATIONS OF MARRIAGE OF THE 1956 COHORT TO THAT OF THE 1951 COHORT BY AGE AT MARRIAGE

THE MEAN FAMILY SIZE OF THE 1951 COHORT HAS BEEN TAKEN AS 1000

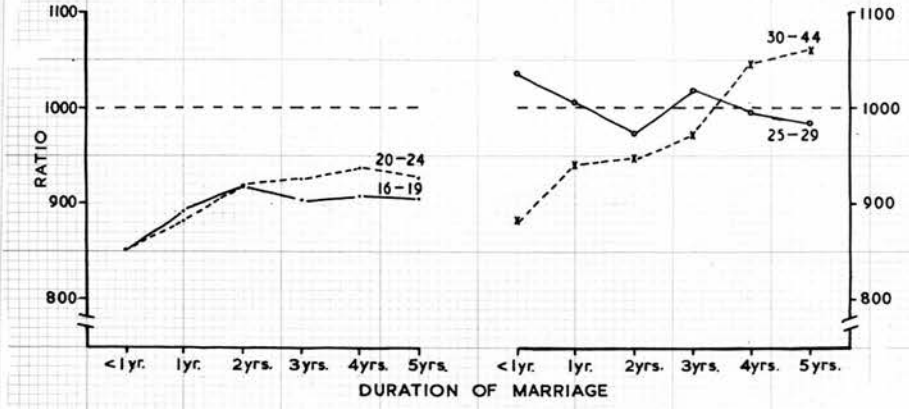


FIG. 37

RATIO OF MEAN FAMILY SIZE AT DIFFERENT DURATIONS OF MARRIAGE OF THE 1956 COHORT TO THAT OF THE 1951 COHORT BY SOCIAL CLASS

THE MEAN FAMILY SIZE OF THE 1951 COHORT HAS BEEN TAKEN AS 1000

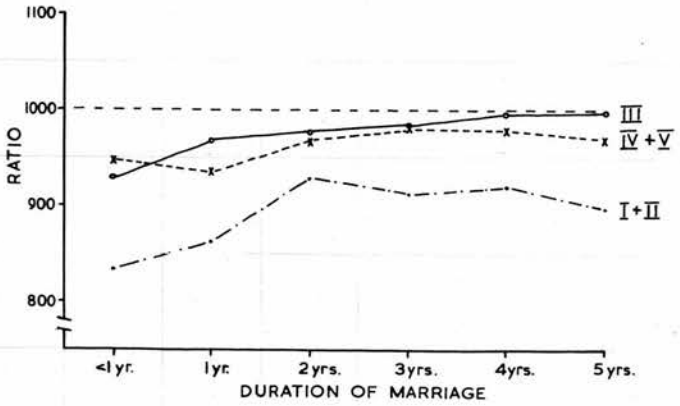


Fig. 36 presents the average family size by age groups. If we examine the average family size by age group, it is found that the age group 20-24 follows the pattern of the entire cohort. The age group 16-19 shows the minimum difference in the mean family size at the duration of 2 years and thereafter the difference increases. Compared to the 1951 cohort the age group 25-29 has a larger family size at earlier durations of marriage in the 1956 cohort. In the age groups between 30-44 years, taken as a whole, the average family size, though smaller at earlier durations, becomes larger at later durations in the 1956 cohort, in comparison to the other cohort.

The trend in average family size according to social class is shown in Fig. 37. In the 1956 cohort the average family size is smaller in social classes I and II (combined) as well as in social classes IV and V (combined). The social class III shows no change. In each of these social class groupings the mean family size has been comparatively smaller in the 1956 cohort at earlier durations of marriage.

We can assess the influence of the age of bride at marriage, and the social class of the husband in the trend of average family size in each of two cohorts. It is evident from Fig. 38 that the trend is similar in two cohorts. The average family size is maximum in the age group 16-19. It declines at later ages. The higher is the age at marriage, the smaller is the mean family size. The mean family size also varies in social classes. It is minimum in social classes I and II (combined) and maximum in social classes IV and V (combined). The average family size in social class III occupies an intermediate position.

In the 1956 cohort we have found a significant rise in the proportion of marriages at ages 16-19 years. It is necessary for us to know the trend in average family size of this age group. In Fig. 39 we have compared the average family size of the age groups 16-19 and 20-24 at different durations

FIG. 38

MEAN FAMILY SIZE IN TWO COHORTS (A) BY SOCIAL CLASS AND (B) BY AGE AT MARRIAGE

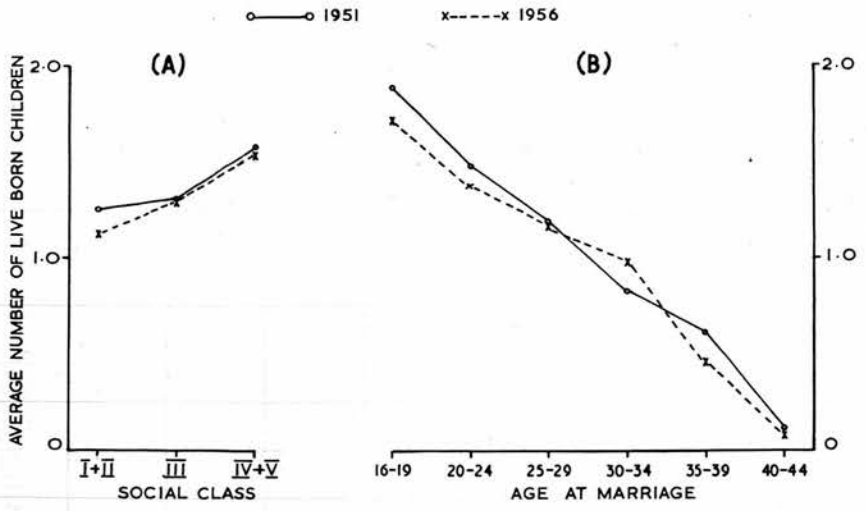
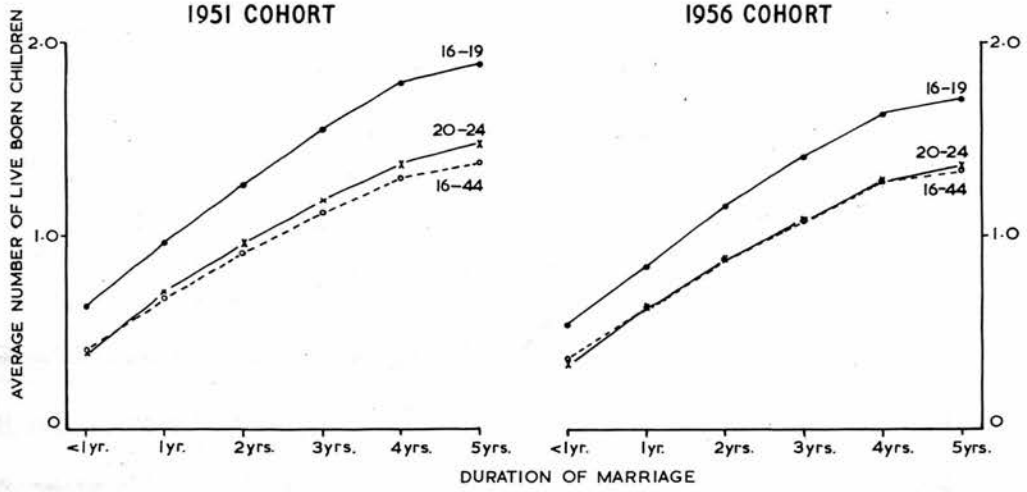


FIG. 39

THE MEAN FAMILY SIZE IN THE 1951 and 1956 COHORTS AT DIFFERENT DURATIONS OF MARRIAGE FOR THE AGE GROUPS 16-19, 20-24, and ALL AGES BELOW 45 YEARS



of marriage with that of the entire cohort. The average family size of the age group 20-24 and the entire cohort differs very little. The mean family size of the age group 16-19 in both the cohorts is markedly higher than that of the entire cohort.

6. Distribution by Size of Family.

We shall now examine the distribution by size of family in two cohorts.

Table - E.

Family size distribution in two cohorts.

Based on live births only.

Age at marriage - All ages under 45.

Size of family	1951 cohort		1956 cohort		Difference in percent. from the 1951 cohort
	Number	Percent.	Number	Percent.	
0	451	21.83	563	24.60	+ 2.77
1	726	35.14	704	30.76	- 4.38
2	600	29.04	749	32.72	+ 3.68
3	231	11.18	229	10.00	- 1.18
4	56	2.71	40	1.75	- 0.96
5	2	0.10	4	0.17	+ 0.07
	2066	100.00	2289	100.00	

Table - E presents the family size distribution in two cohorts. In the 1951 cohort the family size is zero in 21.8 per cent., one in 35.1 per cent., two in 29.0 per cent., three in 11.2 per cent., four in 2.7 per cent. and five

FIG. 40 A.

FAMILY SIZE DISTRIBUTION IN TWO COHORTS BY SOCIAL CLASS

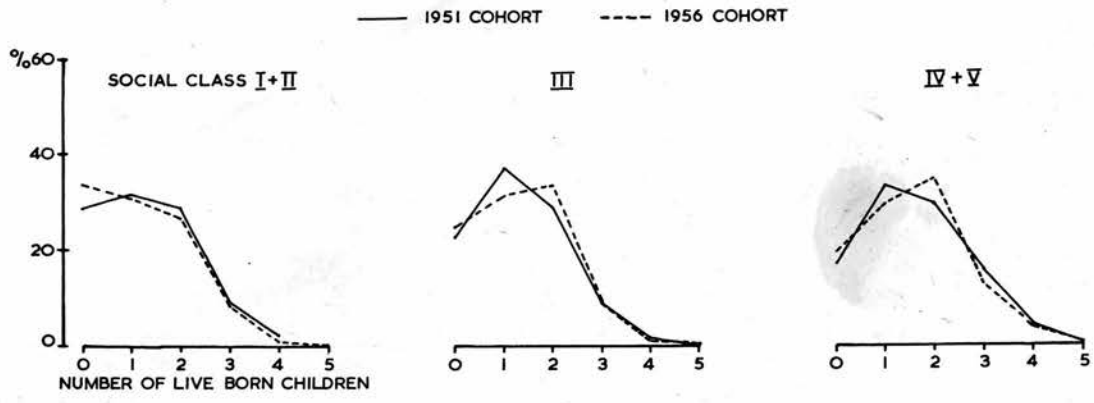
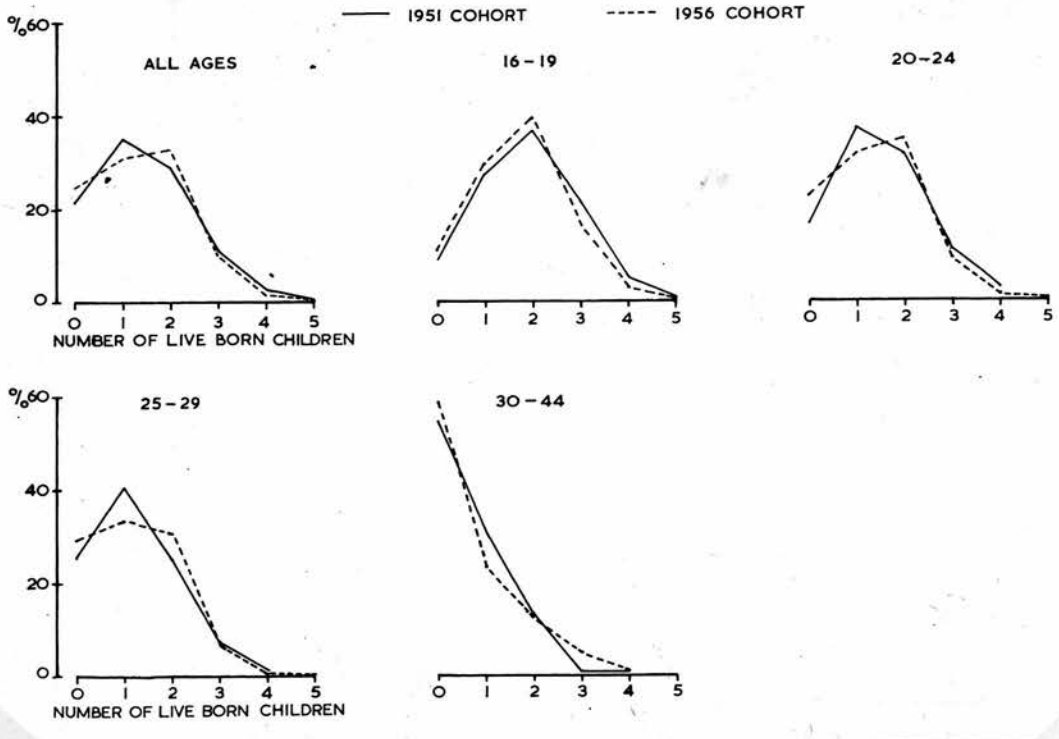


FIG. 40 B.

FAMILY SIZE DISTRIBUTION IN TWO COHORTS BY AGE AT MARRIAGE



in 0.1 per cent. In the 1956 cohort the corresponding figures are 24.6, 30.8, 32.7, 10.0, 1.8 and 0.2.

In comparison to the 1951 cohort there is a rise in the proportion of families with no children in the 1956 cohort. The proportion of such families has increased from 21.8 per cent. to 24.6 per cent. with a difference of 2.8 per cent.

The proportion of one-child families forms 35.1 per cent. in the 1951 cohort and 30.8 per cent. in the 1956 cohort. One-child families present a decline of 4.3 per cent. in the later cohort.

Two-child families constitute 29.0 per cent. in the 1951 cohort. Their proportion has increased to 32.7 per cent. in the 1956 cohort. This represents a rise of 3.7 per cent. in the proportion of two-child families.

The families with three children have declined to 10.0 per cent. in the 1956 cohort from 11.2 per cent. in the 1951 cohort. In the 1956 cohort in 1.8 per cent. the family size consists of 4 children, compared to 2.7 per cent. in the 1951 cohort. Differences in the proportions of three-child and four-child families between two cohorts are respectively 1.2 and 0.9 per cent.

The proportions of families with five children are very small forming 0.1 and 0.2 percents. in two cohorts.

In the 1951 cohort one-child families form the highest proportion. In the 1956 cohort two-child families constitute the largest group.

If we consider the family size distribution in age groups and social classes it becomes evident that there are variations in these sub-groups. Fig. 40 demonstrates the patterns present in two cohorts and also by age group and social class. In the 1956 cohort in the age group 16-19 years although a decline in the proportions of three-child and four-child families is

evident, this age group does not show a fall in the proportion of one-child families as present in the cohort as a whole. The age group 20-24 years confirms to the overall pattern present in the 1956 cohort. In the age group 25-29 years one-child families form the highest proportion in both cohorts. Otherwise this age group follows the general pattern for the 1956 cohort. The age groups between 30-44, taken together, show a rise in the proportion of three-child families in place of two-child families as seen in other age groups.

The social classes IV and V (combined) are found to conform to the overall pattern of the 1956 cohort. The rise in two-child families is not evident in social classes I and II (combined). In social class III although the overall pattern is maintained to a great extent the proportion of three-child families does not show a fall as seen in the entire cohort.

IV. The Results.

Comparison of the two cohorts reveals certain outstanding differences. These are:-

(a) In the 1956 cohort families with no children have increased.

(b) One-child families have declined in the 1956 cohort.

(c) There is an increase in two-child families in the 1956 cohort.

(d) Four-child families have declined in the 1956 cohort.

The two cohorts (samples) are sufficiently large for their differences to be statistically significant. ($P < .05$ for the overall comparison, $\chi^2 = 19.728$ d.f. = 4). As a rough guide to the statistical significance of of the differences in the proportions of a particular family size for the two cohorts, the Standard Error of the differences have been calculated. These are shown in Appendix - D.

The analysed data on the 1951 and 1956 cohorts provide valuable information and help us to understand contemporary events to a great extent. In the fertility study of the 1951 census in Scotland it was found that the one-child family was the most frequent at durations of marriage from 2 to 5 years, and two-child families predominated where the marriage had subsisted for at least 6 years. This trend is continued in the 1951 cohort, but in the 1956 cohort a change is evident. In the latter cohort two-child families outnumber those with one-child. The preponderance of two-child families in the 1956 cohort thus represents an 'anticipation' of second births. A large number of couples have hastened to have a second child that would have occurred in a later period of the married life.

The 1956 cohort has presented divergent trends. In this cohort the proportion of families with no children has also increased. While one

section has 'borrowed births from the future', another section seems to have postponed births to a later period.

In the 1956 cohort there is a tendency towards levelling of family size from diverse positions. In this cohort there is a decline in one-child and four-child families with a greater concentration on two-child families.

Consequent to these changes, the mean family size did not change in the 1956 cohort in spite of the increase in the incidence of second births. From the data on the mean family size at successive durations of marriage, we have found that couples in the 1956 cohort have been building their families at a slower rate, in comparison to the 1951 cohort. It seems a number of factors have contributed towards this change viz.

(a) A rise in the proportion of childless women,

(b) a fall in the number of prenuptial births,

(c) a decline in the proportion of first births within 8 months after marriage, as well as at the marriage-duration of below 1 year,

(d) a decline in the proportion of births in second birth order within two years after marriage, and

(e) a fall in the proportion of women having three or four children.

The difference in the mean family size between the two cohorts has been found to be maximum at the marriage-duration of below 1 year. The difference is less at longer durations. The figures in two cohorts have approximated most at the marriage duration of 4 years.

The age of the bride at marriage and the social class of the husband are important determinants in the pattern of fertility. Their influence has been exemplified in each cohort. In both the cohorts we have found a higher proportion of childless women and a smaller average family size among those

who married at later ages. Women whose age at marriage is below 20 years have a mean family size markedly higher than that of the entire cohort at successive stages in married life. The proportion of childless women is minimum in social classes IV and V (combined). In this social grouping the average family size is highest. The social classes I and II (combined) presents the largest proportion of childless women and the smallest average family size. Social class III occupies a position between two extremes.

In summarizing our results, we shall first refer to the question raised at the beginning of this chapter. The question was whether there has been any change in the 1950's in the fertility pattern of newly-wed couples in Scotland. The answer to that question is in the affirmative. There has been a change in the timing of births.

We have described the changes which are statistically significant on the basis of differences between two cohorts. As the sampling error depends on the size of the sample, the differences which are significant for the entire cohort are not necessarily significant for smaller groups. Age groups and social classes are basic components of a cohort. We have tried to examine the extent to which these groups conform to the overall pattern. Other differences within the cohorts, although not necessarily of statistical significance, have been described where they have shown a consistent pattern.

DISCUSSION.

CHAPTER - 6.

In Scotland there was a sharp increase in the number of live births after the end of World War II. The number began to fall, following the peak rise in 1947 and reached the lowest figure in 1952. Thereafter a persistent upward trend in live births has been evident. A change in the existing pattern of fertility contributing towards this recent surge of births becomes a probability.

To assess the recent changes in the trend of fertility in Scotland we have to make use of the past trend as a guide. Reliable data on births in Scotland are available since 1855. The fall in the Crude Birth Rate did not begin in Scotland until after 1876. The decline of the Scottish Birth Rate continued till 1933, except for an interruption after the First World War. The onset of the decline in the Crude Birth Rate coincided fairly closely with the beginning of a definitive fall in the Married Fertility Rate. The Married Fertility Rate around the census year of 1881 indicated a fall from the rate of the previous decade. The decline of the Married Fertility Rate proceeded steadily through subsequent decades. In the 1930's while the Crude Birth Rate became stabilised, the Married Fertility Rate was still on its decline.

The Crude Birth Rate is an imperfect index of fertility. Changes in the age - sex composition of the population, and the proportion of married women in the childbearing age, affect the estimation of Crude Birth Rate. For the proper appreciation of the recent fertility trend in Scotland, we have examined the Crude Birth Rate and Fertility Rates separately from 1931. Rates tend to fluctuate from year to year. The 5-year rates constitute a better indication of the trend and makes the comparison between successive periods more feasible. The 5-year Crude Birth Rate in Scotland reached its

lowest figure in 1936-'40. The rate did not fall during the war period of 1941-'45 and has varied remarkably after the war. By analysing the data on the Crude Birth Rate we find that (a) the Second World War did not bring a sharp decline in the Crude Birth Rate, as observed during the First World War, (b) the post-war recovery in the Crude Birth Rate after World War II was much more than would be expected on the basis of the War time rate, and (c) the Crude Birth Rate did not stabilise at the pre-war level after World War II but began to rise noticeably in the 1950's. The patterns of the Crude Birth Rate evident around the two World Wars have been different. These patterns have been influenced by the underlying trend and the level of the Crude Birth Rate prevailing around the period under consideration. When the First World War broke out the Crude Birth Rate was fairly high and the long-run downward trend was still continuing. The fall in births during the War period accentuated this downward movement. The post-war rise related to the recoupment of births postponed during the years of war. The long-term trend of decline, however, was soon resumed and the Crude Birth Rate began to fall again.

The position was entirely different before the Second World War. The long-term downward trend seemed to have run its full course. The Crude Birth Rate was low and fairly stable. We can explain the changes in the Crude Birth Rate in recent years by analysing the variations observed in Fertility Rates. We have found that the Total Fertility Rate, the Married Fertility Rate and the Illegitimate Fertility Rate fell during 1936-'40 from the 1931-'35 level. The subsequent trends in these rates have not been identical. During 1941-'45 the Total Fertility Rate rose, although the Married Fertility Rate declined. The rise in the Total Fertility Rate was associated with an increase in the Illegitimate Fertility Rate. The 5-year Crude Birth Rate during the period 1941-'45 was slightly higher than the 1936-'40 rate. This happened in spite

of a fall in the Married Fertility Rate.

During the three 5-year periods after World War II the Illegitimate Fertility Rate has declined progressively and the movements of the Crude Birth Rate relate to those of the Married Fertility Rate. Two facts emerge from the analysed data on illegitimacy. Firstly, when the Crude Birth Rate showed its upward movement in the 1950's the number of illegitimate births and also the Illegitimate Fertility Rate were on the decline. Secondly, illegitimate births form only a small proportion of total births. As the great majority of births in Scotland occur to married women, the pattern of married fertility is the main determinant of the fertilty trend. In our present study we have, therefore, concentrated our attention on marital fertility.

The Married Fertility Rate in Scotland has passed through a long continued downward trend for seventy years since 1881. It did not stabilise in the 1930's like the Crude Birth Rate and declined further during the war period. After a considerable recovery in the immediate post-war period, the Married Fertility Rate resumed its downward movement. It reached its lowest level in the years 1951-'52. The Married Fertility Rate for 1951-'55 is even lower than the 5-year rate for the 1941-'45 period. In the 1950's there has been a sharp contrast in the trend of marital fertility. During 1956-'60 the Married Fertility Rate increased by 6 per cent. from the previous 5-year rate. The rising trend has continued in the 1960's. Apart from the post-war recovery, we did not find any similar upward movement in the Married Fertility Rate since the beginning of the great decline in the last century. Whatever be the proportion of rise, the present trend indicates a deviation from the long-run course of married fertility in Scotland.

We have compared the data on Age-specific Married Fertility Rates and Legitimate Live Births in Scotland for the two 5-year periods, viz. 1951-'55

and 1956-'60, on the basis of 5-year averages. The 5-year Age-specific Married Fertility Rate indicates a rise in females aged between 16 and 34 years during 1956-'60, in comparison to the 1951-'55 period. The data on births suggest that during the later period there has been a rise in births mostly among young mothers, at low parities and in early durations of marriage. The increase in births during 1956-'60 was essentially to women aged below 30 years. The rise was present in birth orders between 1 and 7, the proportion of rise being more in the lower birth ranks. The main increase was evident in births occurring to women married for less than 10 years. Those who were married for less than 5 years, contributed in a greater proportion towards this rise. Although the age group 35-39 years showed a slight increase, the age groups between 30-44 years, taken together, presented a fall in the average annual number of births in 1956-'60. The average annual number during 1956-'60 in birth ranks above 7, and in the marriage duration of above 9 years, taken as a whole, was less than that of the 1951-'55 period.

The annual married fertility is greatly influenced by the trend in nuptiality. We have examined the recent changes in marriage habits in Scotland. In the recent past there has been a sharp rise in the number of marriages. The 5-year Marriage Rate has remained high since 1936. The persistance of the high Marriage Rate has been associated with a continual decline in the age of brides at marriage. After the Second World War the number of marriages with bride's age at marriage between 16-19 years has increased remarkably and the number of marriages in females aged between 25 and 44 years has fallen steadily. In view of the large number of marriages in the recent past the number of married women in the child-bearing period has risen. The increase in the number of newly-wed couples in younger age groups has been an important feature in recent years. The observed trend of legitimate births during 1956-'60 has

been consistent with this change in marriage habits. The rise in the number of married females in the child-bearing age will augment the annual number of births, even if the rate of fertility remains the same. The increase in the number of married females in earlier age groups is likely to result in more births to young mothers. The proportion of newly-wed couples has been high due to a continued high level in the number of marriages. This explains the rise in the number of births at low parities and in earlier durations of marriage. Comparing the average annual number of births by birth order in marriage durations of less than 5 years, we have found that in 1956-'60, while the proportion of increase of first births was 6.2 per cent. from the 1951-'55 figure, the rise constituted 14 per cent. in the second birth rank, and 10.9 per cent. in other birth ranks taken together. These figures tend to show that the increase in births in higher birth orders is proportionately more than that of first births and suggest a possible shift in the timing of births. Although changes in marriage habits explain to a great extent the observed trends in births, we cannot exclude the possibility of some changes in the pattern of fertility in the later part of the 1950's, particularly so when the Married Fertility Rate has shown an upturn. Yet, it will be unreasonable to assume a change in the pattern of fertility on the basis of data on annual fertility rates only.

The sample cohort analysis in our study has indicated important changes in the pattern of fertility in Scotland in the 1950's. Compared to the 1951 cohort, we have found a greater concentration on two-child families in the 1956 cohort. In the latter cohort there is a greater tendency of one-parity females toward having a second child, but the tendency of two or three-parity females to have another child is less. In view of this pattern of fertility, there has been a significant fall in the proportion of one-child and four-child

families in the 1956 cohort, while there is a rise in families with two children. In the 1951 census study on fertility in Scotland one-child families were found to be most frequent at the marriage duration of two to five years. This pattern is evident in the 1951 cohort, but not in the later cohort, in which two-child families outnumber those with one-child.

The other change found in the 1956 cohort is the rise in the proportion of families with no-children. While one section of the cohort is 'borrowing births from the future', another section is found to postpone births to a later period. This increase in the proportion of families with no-children has been shared by all groups by the age at marriage and social class groupings. We know there are variations among married couples in the time when contraception is begun. There has been a steady increase in the proportion of women using birth-control from the date of marriage. While 6 per cent. used birth-control at marriage before 1910, 40 per cent. used it at marriage from 1940 (Lewis-Faning, 1949). The proportion of those starting birth-control at marriage has increased in the 1950-'60 cohort in comparison to the 1940-'49 cohort (Rowntree and Pierce, 1961). The two patterns of changes in the timing of births - advancement and postponement, found in the 1956 cohort are divergent no doubt, but they are not contradictory. The 1956 cohort has displayed many differences which suggest a more effective practice of family limitation. In the 1956 cohort prenuptial births are less. The proportion of first births born within 8 months of marriage has fallen in the 1956 cohort in all ages at marriage and social class groupings. The percentage of first births in the marriage duration group of below 1 year, and that of second births in the duration group of 1 year are comparatively smaller in the 1956 cohort. The decline of families with more than two children also indicates that the practice of family limitation has been more widespread in the later cohort.

There are limitations inherent in the method of cohort analysis adopted in the present study. The emigration and internal migration are considerable in Scotland. We cannot eliminate the possibility of exclusion of a number of births occurring to each cohort in our follow-up study. Although both the cohorts are likely to be affected equally, there might have been some variations in the extent to which population movements had their effects on the two cohorts. While it is hoped that the present analysis will help to advance our knowledge of the current fertility pattern in Scotland, we should accept them with the qualification that they represent approximations rather than true figures. The more accurate measurement of the Scottish fertility trend will be possible when the data on fertility in Scotland will be improved to provide adequate information on cohort fertility, as it has been done in England and Wales.

In recent years a rising trend in fertility has been evident in many countries in Europe, North America and Oceania. In most of these countries the downward trend of the Birth Rate began around 1880. In the United States and France the fall in the Birth Rate started at the beginning of the 19th century. In Ireland it began to fall about 1850. In Sweden the decline became apparent in the first half of the 19th century. The small family system was first established in North-West Europe and among Europeans overseas. The small family pattern was achieved through the widespread practice of birth-control except in the case of Ireland where the method of keeping down the number of births has been based on moral restraint. The practice of family limitation came later to Southern and Eastern Europe and other industrialised countries. Fertility has declined in the recent past in Japan and the Soviet Union, and more recently in Temperate South America and Southern Europe (Carr-Saunders, 1936; Population Studies, U.N., No. 27, 28). In the

countries in which the decline in Birth Rate began in the 19th century, the long-run downward trend continued until the 1930's, excluding the early years after World War I. Some recovery of the Birth Rate has been noticed in these countries in recent years. "Dissimilarities between countries are, of course, by no means rare, but they are found more in the details than in the general outlines of the trends". (Population Studies, U.N., No. 27.). This statement is true not only for the fertility trend, but for the trend of nuptiality as well. The changes in marriage habits and in timing of births have been found to be the main factors in the recent rise in fertility in industrialised countries.

The Registrar General for England and Wales presents estimates of the family size distribution of the marriages of recent cohorts at successive marriage durations by using fertility rates by birth order. Changes in the timing of births are evident in the family size distribution in recent cohorts in England and Wales. The 'advancement' of births seems to be more generalised in England and Wales than we have found in our study on the 1951 and 1956 cohorts in Scotland. In England and Wales in the 1956 cohort at the duration of marriage of 5 years the proportion of families with no children has declined by 5.8 per cent. in comparison to the 1951 cohort. In the later cohort the rise is maximum in the proportion of two-child families. In the 1951 cohort 26.5 per cent. have two-child families in the duration group of 5 years. The corresponding figure has risen to 30.1 in the 1956 cohort (The Registrar General's Statistical Review of England and Wales, 1961, Part III, pp -76-78, Table XLVI).

Gille (1954) has described the overall pattern evident in recent times in industrialised countries showing a rising trend of fertility as follows. The decline in the proportion of families with a large number of children has continued. Fertility has increased within small families. The proportion of one-parity women having a second child has been generally higher in recent

cohorts in comparison to pre-war cohorts. The tendency to remain childless is less in recent marriages. The trend is towards more medium sized families having one to three children.

The long-run decline of the average family size has been checked in most countries. In the earlier phase of the present rising trend in fertility many demographers expected the changes to be short-lived. However, it is now accepted that the completed family size for recent cohorts is likely to be larger (Shryock et al, 1954; Carrier, 1963). We lack knowledge of the trend of average size of completed families in recent times in Scotland. The comparative cohort analysis in our study indicates a changing pattern of fertility but no conclusion can be drawn on the probable size of the completed family for these cohorts. There can be fluctuations in the annual number of births due to changes in the trend of nuptiality, or due to postponement, recovery or advancement of births by married couples. They do not necessarily indicate a change in the ultimate family size. The great majority of females whose pattern of family building has resulted in the recent rise in marital fertility in Scotland, will continue to be in the reproductive life for a long period to come and their attitude towards ultimate size of family will determine the future course.

We know that the practice of family limitation has differed in extent among sections of population in Great Britain and the main difference has been found to be related to occupational groups. The slow decline in family size in Scotland has been attributed mainly to occupational differences (Royal Commission On Population, 1949). In the Family Census of 1946 it was found that the average family size in Scotland was 20 per cent. higher than that in Great Britain as a whole, at the beginning of the present century. The difference rose to the order of 30 per cent. in the 1920's. The difference

has been more in the 'manual' group than in the 'non-manual' group. It has also been found that the difference in average family size between the social status groups is larger in Scotland than in Great Britain as a whole. The 1951 census study on completed fertility in Scotland has shown that the average family size increases progressively from social class I to V. We have compared the mean family size in the 1951 and 1956 cohorts by social class groupings and found that in both the cohorts it is highest in social classes IV and V (combined) and lowest in social classes I and II (combined). In social class III it is found to be intermediate. In our cohort study the mean family size represents that of incomplete families, but it indicates that social class is still a determinant in the trend of fertility in Scotland. The difference in fertility between socio-economic classes has narrowed in the past (Crew, 1948). The different occupational groups do not begin contraception in the same stage of the family growth. The practice of birth-control is begun at marriage more among 'non-manual' group (Rowntree and Pierce, 1961). It will be reasonable to presume that in later stages of married life the difference in the average family size among social groupings in each of the two cohorts will be less. In view of the past trend of a larger average family size in Scotland in comparison to that in Great Britain as a whole, it is possible that the decline in average family size may continue for some time in Scotland, as the equalising of average family size among socio-economic groups proceeds, before the new rising trend shows itself.

The recent tendency towards early marriage is largely the result of diffusion of birth-control knowledge (Himes, 1936). Francis Place (1771 - 1854), founder of the birth-control movement, could foresee this trend and thus wrote " ....if the evil consequences of too large a family did not deter them, all men would marry while young". (Francis Place's Contraceptive Handbill, 1823, Form B.).

The present trend of early marriage seems to be deeply rooted in changed economic and social conditions of these industrialised countries and cannot, therefore, be brushed aside as a temporary phenomenon (Population Studies,U.N., No. 27). We have outlined that the average size of completed families was larger in those who had married at an earlier age. Females married at ages 16-19 years have the largest families. We have also traced that this trend of larger families in females married at earlier ages persisted irrespective of the social class to which they belonged. In the past the promotion of earlier marriage was advocated by the Registrar General, England and Wales, for raising marital fertility to prevent a population decline. What impact on the average size of family is likely to be produced from the present decline in the age at marriage ? The increase in the size of family simply because of a fall in the age at marriage might have been possible when human control over its reproductivity was limited,but it is by no means inevitable now (Kuczynski, 1942; Taylor, 1952). When the average marriage age was high, those who married young might have a particular socio-economic background or temperament, and this factor might have been conducive to larger families. If females in groups in which formerly the age of marriage was high, at present marry early, the same factor cannot be operative.

It is true that even among those who practise family limitation the possibility of unwanted pregnancies cannot be eliminated, and such possibility will be more, the longer is the exposure to the risk of pregnancy due to marriage at an earlier age. But planning is likely to be more effective when people marry young and efforts to regulate conception begin early (Royal Commission On Population). The important factor is the stage in the married life when married couples begin contraception. Freedman et al (1959), have shown that among couples using contraception, only 27 per cent. of the users with four

or more pregnancies began the use of contraception before the first pregnancy, compared to 61 per cent. of those with only one pregnancy. Among females with a similar age at marriage and in similar social groupings, the average number of subsequent children has been found to be higher when a child was born within a year of marriage than when the child was born more than a year after marriage (Baird, 1946).

Fertility study in recent cohorts in Great Britain indicates that women marrying young have displayed characteristics previously associated with a higher age at marriage (Population Studies, U.N., No. 27). In England and Wales women married under the age of 20 have been found to be slower in building up their complete families. Within the first ten years of marriage they have achieved 70 per cent. of their ultimate family size, compared with about 80 per cent. in the case of women married at all ages under 45, and with 85 to 90 per cent. in the case of those married at 25-29 years (Registrar General's Statistical Review of England and Wales, 1961, Part III). In our cohort study we have found that in the later cohort women married at ages below 25 have been comparatively slower to build up their families in comparison to those of the 1951 cohort. The slow family building by those married at earlier ages may foreshadow a family size smaller than that of their predecessors.

Let us now attempt to find out how the current trend in fertility in Scotland is going to affect the growth of her population. Excepting the period of 1921-'31, the population of Scotland has increased progressively since 1801, the year of the first official census. The precise figures for the natural increase due to excess of births over deaths are available from the 1861 census onwards. They present a constant, though varying, increase.

In the 1921-'31 period the loss due to emigration outnumbered the natural increase and this resulted in a fall in the total population. In Scotland emigration has always been substantial. (Snodgrass, 1944; Kyd, 1948). The growth of the population in the past has been maintained, in spite of the declining Birth Rate, mainly through the improvement of the Death Rate (Census 1951, Scotland, Volume III). A further decline in the Death Rate cannot occur to the extent it happened in the past. The recent rising Birth Rate in Scotland will, therefore, be helpful to prevent a fall in the natural increase of her population.

Not only the number of children born to a couple but also the proportion of these children who survive to produce children in their turn are important factors in the trend of population growth. In Scotland the improvement in the Death Rate has been associated with a marked decline in the infant mortality. Better medical and social services no doubt account for that,but some influence of the fertility trend on the wastage of infant life cannot be ignored. The age of mother, the birth order and the interval between successive births have their importance. While the risk of still births increases with the higher age of mother in each birth rank, the mortality in the post-neonatal period rises in younger mothers with larger families and closely-spaced births. The effect of mother's age is more pronounced in the mortality of infants between 1 to 6 months, in comparison to that in the period of 6 months to 2 years. The effect on the neo-natal mortality represents a combination of those observed on still births and post-neonatal mortality (Population Studies, U.N., No. 13, Vol. II; Heady and Morris, 1959; Morrison et al, 1959). We know that due to the fall in the age at marriage there are more mothers in younger age groups in recent years in Scotland. This factor will tend to improve the still birth rate but it may affect adversely the neonatal and

post-neonatal mortality if young mothers have larger families. The current pattern of fertility in Scotland with the greater concentration on two-child families in the first 5 years of married life is likely to minimise that risk.

The level of fertility of a generation has to be assessed regarding its adequacy for the replacement of the generation. A couple should have at least two surviving children, one male and one female, in order to replace themselves. The sex ratio at birth is stable. The Gross Reproduction Rate representing the sum of Age-specific Fertility Rates and based on female births, fairly reflects the reproductive trend of the population. All female infants do not live to reach the child-bearing age, so the Gross Reproduction Rate is adjusted for the female mortality. The Net Reproduction Rate thus obtained represents an index of replacement. In Scotland the Net Reproduction Rate after World War II has been above unity, and so under the current fertility and mortality conditions the population is expected to grow in future.

The Royal Commission On Population considered that the ultimate size of family should constitute the index for replacement. The reproduction rates are likely to be affected by the shift in the timing of births and the proportion of women who are married is not taken into consideration in the calculation of reproduction rates. In their opinion an average family size of 2.2 children per married couple represents a deficiency of 6 per cent. from the replacement level. The average family size for women with completed fertility at the time of the 1951 census in Scotland was found to be 2.52 children per married couple. This is adequate for replacement. In recent years in Scotland the proportion of women who are married before the end of child-bearing age has increased and is likely to increase further in future. This will help to maintain the level of replacement even if the average family size falls slightly in the near future.

In England and Wales the mean family size of the 1956 cohort, consisting of women married once only and at ages under 45, at the marriage duration of 5 years is 1.32. This is the largest mean family size for any cohort at the similar duration of marriage in England and Wales in recent times. (Registrar General's Statistical Review of England and Wales, 1961, Part III, Appendix A, Page 326). The projected mean ultimate family size for the 1956 cohort in England and Wales stands between 2.35 and 2.50 (Registrar General's Statistical Review of England and Wales, 1961, Part III, Page 70). In our study we have found that in the 1956 cohort the mean family size has declined slightly in comparison to that of the 1951 cohort but it is still higher than the mean family size of the 1956 cohort of England and Wales. We have no reason to assume that the completed family of the recent cohorts in Scotland will not be adequate for replacement. The forecasts about the population growth in Scotland, based on assumptions about future fertility, mortality and migration, are presented in the Annual Reports of the Registrar General for Scotland. A slow but continuous growth of the population in the near future seems to be ensured.

The lack of uniformity and universality of available statistical data on fertility limits the scope of international comparability. Births which are registered with the Civil Authorities, constitute less than 50 per cent. of the births which occur in the world. Consequently, rates for many countries represent estimates from sample surveys and consecutive population-census returns (Demographic Year-Book, 1959). The Census Coverage was maximum in 1953, in which year a population census was undertaken on the Chinese mainland. The current census coverage is confined to only two-thirds of the world population. The geographic and ethnic coverage of vital statistics varies

widely. Information is incomplete and unreliable among the indigenous population of Africa, and in most areas of Asia and Latin America. Comparability is also affected by differences in statistical definition of vital events and procedures of their tabulation (Demographic Year-Book, 1962).

On the basis of available data, we can discern a wide disparity in fertility levels in differemt parts of the world. It has been generally recognised that in technologically underdeveloped regions the fertility level is high. In these regions Crude Birth Rates have been assessed to be near or above 40 per 1000 population, and in several areas Birth Rates approach a figure of 50. Gross Reproduction Rate of the order of 3 are prevalent in Africa, Central and Tropical South America, and in Asia excluding Japan. In the Caribbean the rate constitutes 2.25 . As a contrast, Gross Reproduction Rates in the industrialised countries are of the order of 1.25 to 1.5. The Gross Reproduction Rate in Japan and most of Europe is equal to 1.25, and is of the order of 1.5 in Northern America, Temperate South America, Oceania, and the Soviet Union (Population Studies, United Nations, No. 28).

It is undoubted that the present level of fertility in the majority of technologically underdeveloped countries is higher than that prevalent in Western Europe in the nineteenth century before the onset of the great decline in fertility. What is the probable trend of fertility in these countries of high fertility? It is not possible to have a definite answer to this question. Reliable data on past fertility trends in these regions are lacking. Many of these countries are at present passing through a transitional phase, changing from a rural-agrarian to an urban-industrial economy. It is generally accepted that with the progress of industrialisation the level of fertility

will decline in these areas, as happened in Western countries, as a result of the spread of the practice of family limitation. But a rapid decline in fertility over extensive areas must not be anticipated. We may even find a further rise from the current level of fertility. We should expect a considerable time lag between the economic development and the onset of a declining trend in fertility in these population groups. Their attitudes toward human reproduction performance are based on customs and values which have been deeply rooted in their cultural and social framework. That a decline in fertility does not necessarily accompany an industrial development will be evident if we take the example of Singapore. In South-East Asia urbanisation and industrial development are maximum in Singapore, yet the Singapore Birth Rate constitutes the highest recorded Birth Rate for the region (Population Studies, United Nations, No. 30., Robinson, 1963).

In countries of high fertility, marriage of women is almost universal and the age at marriage is low. The great number of consensual marriages in Latin American countries limit comparability, but from the available data there is no doubt that women in those countries begin child-bearing early. The average age at marriage has been rising recently in many of these countries. In India the mean age at marriage of women has risen due to a fall in child marriages. No appreciable fall in marital fertility in the near future is, however, likely to result from this change, as the age at marriage will remain low among the large section of population. Moreover, although child-marriage extends the reproductive opportunities of the woman, it also adversely affects health and fertility. (Carr-Saunders, 1936; Chandrasekaran, 1954; Population Studies, United Nations, No. 17; No. 30; Agarwala, 1957).

The level of fertility prevailing in these countries is far from the possible maximum. In many societies births are avoided once the woman attains

a certain age, or has a certain number of children, or when the oldest child reaches the marriageable age. The average interval between births in India is longer than that observed in Western countries before the widespread practice of family limitation. Effective fertility controls exist even among people who have no knowledge of modern contraceptive methods. With the change in social outlook and the increased western influence many of these controlling factors will become inoperative, with a resultant rise in fertility (Population Studies, U.N., No. 30; Chandrasekaran, 1954; Ford, 1954).

In a special survey of the 1931 census in India it was found that the average married woman in India had four live-born children. This family size did not result from the deliberate practice of family limitation. It was mainly due to the death of many women before they reached the end of the reproductive period and the rarity of widow re-marriage among a large section of the Indian population. With the fall in mortality more women will live through the whole of reproductive period. The average age at widowhood will rise and there will be less widowhood. All these factors will tend to increase the fertility. The high death rate is inevitably associated with a high rate of morbidity. The rise in fertility has been evident after the control of malaria. The improvements in mortality and morbidity, as well as many urgent social reforms in countries with high fertility are likely to raise the fertility level further unless, in the meantime, the practice of family limitation becomes more widespread and effective. (Carr-Saunders, 1936; Davis, 1951; Raja Indra, 1954; Pampana, 1954; Chandrasekaran, 1954; Ghosh, 1946; Rele, 1963).

The appraisal of the current fertility trend is a vital need for countries burdened with the growth of population. The analysis of fertility prospects has to be done in the proper perspective of socio-economic and ethnic factors. There are immense potentialities for research in the fertilty field. Studies

like the present one will help to develop critical insights for the evaluation of fertility trends in areas where new patterns of fertility are coming into existence.

Summary.

To the medical sociologist the trend of population growth in the area in which he works is of vital importance. India, the country of the author, is facing the problem of a growing population in an underdeveloped economy like many other technologically underdeveloped areas of the world. The trend of fertility is one of the primary determinants of the population growth. The present study is an exercise in the method of obtaining information on the fertility trend.

In Great Britain the practice of family limitation resulted in a long-run decline in marital fertility in the past. In the 1950's a new rising trend in births has been evident both in Scotland, and England and Wales. The information on the recent trend of fertility in Scotland is not adequate. Changes in marriage habits explain some of the features observed in the annual data on fertility, but it was not possible to discover the pattern of fertility among newly-wed couples. In order to do so, the present study was carried out by a sample cohort analysis.

The cohorts of the first year of each of the two 5-year periods, 1951-55 and 1956-60 have been compared. The fertility of two groups of marriages, one of 1951 and the other of 1956, has been followed from the year of marriage through the subsequent five calendar years by linkage of records available in Marriage and Birth Registers. The comparison of the two cohorts reveals certain outstanding differences in the pattern of fertility. These are:-

(a) Families with no children have increased in the 1956 cohort.

(b) One-child families have declined in the 1956 cohort.

(c) Two-child families have increased in the 1956 cohort.

(d) Four-child families have declined in the 1956 cohort.

On the basis of the information obtained from the cohort analysis, we conclude that a new pattern of family building has emerged among newly-wed couples in Scotland in the 1950's.

An attempt has been made to evaluate the impact of the recent fertility trend in Scotland on the growth of her population. A slow but continual population growth is likely to be the future prospect.

It is by no means easy to assess the course of fertility in most of the countries with high fertility. While a decline in fertility in high-fertility areas with the spread of family limitation, as happened in Western countries like Great Britain in the past, is generally anticipated, the possibility of a further rise in the level of fertility in the near future, due to changing social and health conditions, cannot be excluded.

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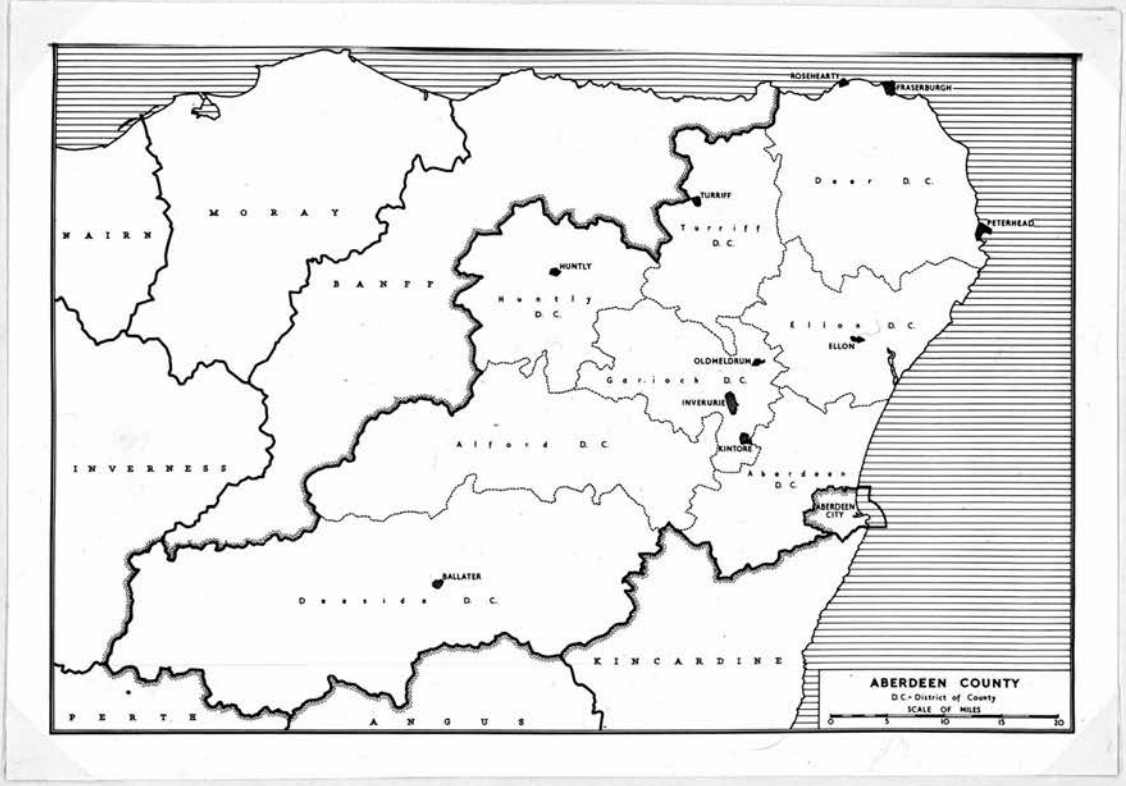
Appendix - A.

The Geographical Region selected for Cohort Analysis.

The County of Aberdeen and the County of the City of Aberdeen.



Reproduced from the County Report Vol. 1, Part 5, County of Aberdeen.

Census 1961. Page - 17.

Appendix - B.

In the 1951 census the Burghal and Landward populations of Scotland were 3,562,690 and 1,533,725 respectively.

They represented the proportions of 69.9 per cent. and 30.1 per cent.

The population enumerated in the 1951 census in the area selected for the study was as follows.

Area	Population
1) City of Aberdeen -	182,729
a) County of Aberdeen - 163,208	
b) County of Kincardine -19,521	
2) Remainder of the County of Aberdeen	144,800
Total	327,529

The Burghal population in the County of Aberdeen formed 204,603. Inclusion of the portion of the City of Aberdeen lying in Kincardineshire raised the Burghal population to 224,124. The Landward population of the County of Aberdeen consisted of 103,405. The Landward population thus represented 31.6 per cent. of the total population in the area.

The Burghal and Landward populations of the three other counties in Scotland with cities in the 1951 census are shown below.

	Burghal		Landward	
	No.	P.C. of total	No.	P.C. of total
(1) County of Lanark	1,307,818	81.0	306,545	19.0
(2) County of Midlothian	507,127	89.6	58,608	10.4
(3) County of Angus	237,044	86.2	37,832	13.8
(4) County of Aberdeen with Kincardine portion of Aberdeen city	224,124	68.4	103,405	31.6
(5) Scotland	3,562,690	69.9	1,533,725	30.1

The Landward populations of the Counties of Lanark, Midlothian and Angus formed 19.0, 10.4 and 13.8 per cent. respectively of the total population in those counties. The distribution of the population in the region selected for the study approximated figures for Scotland more than three other counties. (Census 1951. Scotland. Vol. III. General Volume. Page 11. Table 10).

Appendix - C.

EXTRACT of an ENTRY in a REGISTER of MARRIAGES.

1. No.

2. When, Where, and How Married.

3. Names (in full) of Parties, with Signatures.

Rank or Profession, and whether Bacholor, Spinster, Widower, Widow or Divorced.

4. Age.

5. Usual Residence.

6. Name, Surname, and Rank or Profession of Father.

Name, and Maiden Surname of Mother.

7. If a Regular Marriage, Signature and Designation of Officiating Minister or Registrar, and Signatures and Addresses of Witnesses.

If an Irregular Marriage, Date of Decree of Declarator, or of Sheriff's Warrant.

8. When and Where Registered
and
Signatures of Registrar.

EXTRACT of an ENTRY in a REGISTER of BIRTHS.

1. No.

2. Name and Surname.

3. When and Where Born.

4. Sex.

Name, Surname, and Rank or Profession of Father.

Name, and Maiden Surname of Mother

Date and Place of Marriage.

6. Signature and Qualification of Informant, and Residence if out of the House in which the Birth occurred.

7. When and Where Registered, and Signature of Registrar.

Appendix - D

Estimated Sampling Error of differences between percentages in the family size distribution in two cohorts.

Size of family	Distribution in percentages 1951 cohort	1956 cohort	Observed difference from 1951 cohort %	*Standard Error of the difference	Statistically significant or not (t)	Level of significance (P)
0	21.83	24.60	+ 2.77	1.2792	2.1654	.02 - .05
1	35.14	30.76	- 4.38	1.4260	3.0715	.01 - .001
2	29.04	32.72	+ 3.68	1.3997	2.6291	.01 - .001
3	11.18	10.00	- 1.18	0.9348	1.2623	.20 - .30
4	2.71	1.75	- 0.96	0.4502	2.1324	.02 - .05
5	0.10	0.17	+ 0.07	0.1104	0.6340	.50 - .60
Total number of marriages in the sample	2066	2289				

* The Standard Error of the difference between the two percentages has been taken as square root of the sum of squares of the Standard Error of each proportion. If n is the number in a sample and p is the percentage under consideration, the Standard Error may be taken as $\sqrt{\frac{p(100-p)}{n}}$. Thus the Standard Error of the difference between two proportions may be taken as $\sqrt{\frac{p(100-p)}{n1} + \frac{(100-q)}{n2}}$, where p and q are the two proportions under considerations, and n_1 and n_2 are the numbers in the respective samples.

APPENDIX TABLE I.

CRUDE BIRTH RATE OF SCOTLAND - (1861 - 1960) IN QUINQUENNIAL AVERAGE.

YEAR	NO OF LIVE BIRTHS PER 1000 POPULATION.
*1855-60	34.104.
1861-65	35.096.
1866-70	34.911.
1871-75	34.974.
1876-80	34.758.
1881-85.	33.275.
1886-90.	31.444.
1891-95.	30.522.
1896-1900.	29.970.
1901-05.	29.193.
1906-10.	27.566.
1911-15.	25.415.
1916-20	22.757.
1921-25.	23.001.
1926-30.	19,951.
1931-35.	18.207.
1936-40.	17.557.
1941-45.	17.766.
1946-50	19.806.
1951-55	17.902.
1956-60	19.176.

* Represents the average for 6 years.

APPENDIX TABLE II.

CRUDE BIRTH RATE OF SCOTLAND. 1931 - 1962.

YEAR	BIRTHS PER 1000 POPULATION.
1931	19.042.
1932	18.636.
1933	17.618.
1934	18.004.
1935	17.754.
1936	17.906.
1937	17.645.
1938	17.749.
1939	17.359.
1940	17.124.
1941	17.501.
1942	17.632.
1943	18.355.
1944	18.485.
1945	16.855.
1946	20.334.
1947	22.254.
1948	19.687.
1949	18.720.
1950	18.050.
1951	17.764.
1952	17.727.
1953	17.828.
1954	18.088.
1955	18.104.
1956	18.614.
1957	19.117.
1958	19.350.
1959	19.227.
1960	19.565.
1961	19.516.
1962	20.077.

APPENDIX TABLE III.

TOTAL FERTILITY RATE OF SCOTLAND, 1931 - 1962.

YEAR	BIRTHS PER 1000 WOMEN AGED 15-44.	YEAR	BIRTHS PER 1000 WOMEN AGED 15-44.
1931	79.8.	1947	99.1.
1932	78.4.	1948	88.7.
1933	74.5.	1949	85.4.
1934	76.5.	1950	83.4.
1935	74.9.	1951	79.8.
1936	75.1.	1952	80.1.
1937	73.7.	1953	81.3.
1938	74.0.	1954	83.2.
1939	72.1.	1955	84.1.
1940	71.4.	1956	87.5.
1941	73.5.	1957	90.8.
1942	74.2.	1958	92.8.
1943	78.7.	1959	93.2.
1944	79.9.	1960	96.0.
1945	73.1.	1961	96.6.
1946	89.5.	1962	98.6.

APPENDIX TABLE IV.

MARRIED FERTILITY RATE FROM 1931 to 1962. SCOTLAND.

YEAR	LEGITIMATE BIRTHS PER 1000 MARRIED WOMEN AGED BELOW 45.	YEAR	LEGITIMATE BIRTHS PER 1000 MARRIED WOMEN AGED BELOW 45.
1931	168.3.	1947	171.5.
1932	164.3.	1948	150.2.
1933	154.7.	1949	144.0.
1934	156.8.	1950	139.8.
1935	152.4.	1951	131.5.
1936	151.4.	1952.	131.3.
1937	147.2.	1953.	132.1.
1938	146.1.	1954.	134.2.
1939	141.1.	1955.	134.2.
1940	137.0.	1956.	137.4.
1941	138.1.	1957.	140.9.
1942	135.9	1958.	142.6.
1943	140.6.	1959.	141.6.
1944	141.5.	1960.	144.2.
1945	126.1.	1961.	143.4.
1946	158.0.	1962.	146.4.

APPENDIX TABLE V.

5 - YEAR MARRIAGE RATE PER 1000 TOTAL POPULATION IN SCOTLAND FROM 1855.

5_YEAR PERIOD	MARRIAGE RATE.
*1855-1860	6.839
1861-65	7.046
1866-70	6.971
1871-75	7.482
1876-80	6.882
1881-85	6.891
1886-90	6.515
1891-95	6.784
1896-1900	7.310
1901-05	7.020
1906-10	6.800
1911-15	7.131
1916-20	7.761
1921-25	7.114
1926-30	6.730
1931-35	7.133
1936-40	8.586
1941-45	8.493
1946-50	8.454
1951-55	8.175
1956-60	8.099

* Represents average for 6 years.

APPENDIX TABLE VI.

THE ANNUAL NUMBER OF MARRIAGES IN SCOTLAND. 1931 - 1962.

YEAR.	TOTAL NUMBER OF MARRIAGES.
1931	32,652.
1932	33,157.
1933	34,201.
1934	36,934.
1935	37,988.
1936	37,896.
1937	38,334.
1938	38,716.
1939	46,236.
1940	53,522.
1941	47,620.
1942	47,402.
1943	38,177.
1944	37,017.
1945	48,642.
1946	45,785.
1947	44,360.
1948	43,718.
1949	41,708.
1950	40,459.
1951	41,361.
1952	41,154.
1953	40,902.
1954	41,974.
1955	43,199.
1956	43,963.
1957	42,661.
1958	41,186.
1959	40,442.
1960	40,103.
1961	40,562.
1962	40,255.

APPENDIX TABLE VII.

THE AVERAGE AGE OF WOMEN AT MARRIAGE IN 10-YEAR PERIODS IN SCOTLAND FROM 1861

10 - Year period.	Average age at marriage (all brides).
1861- 70.	25.6.
1871- 80.	25.6.
1881- 90.	25.7.
1891- 1900.	25.9.
1901- 10.	26.2.
1911- 20.	26.7.
1921- 30.	26.5.
1931- 40.	26.4.
1941- 50.	26.0.
1951- 60.	25.1.

APPENDIX TABLE VIII.

THE AVERAGE AGE AT MARRIAGE FOR FEMALES IN SCOTLAND, 1938, 1946 - 1961.

YEAR.	AVERAGE AGE AT MARRIAGE (all Brides).
1938.	26.7.
1946.	26.4.
1947.	26.3.
1948.	26.1.
1949.	26.0.
1950.	25.9.
1951.	25.7.
1952.	25.7.
1953.	25.6.
1954.	25.4.
1955.	25.2.
1956.	24.9.
1957.	24.8.
1958.	24.7.
1959.	24.7.
1960.	24.6.
1961.	24.5.

APPENDIX TABLE IX.

NUMBER AND PROPORTION OF MARRIAGES IN FEMALES AT AGES OVER 45 IN SCOTLAND, 1938,1946 to 1961.

YEAR	TOTAL MARRIAGES.	MARRIAGES AT AGES OVER 45 YEARS.	
		Number.	Percent. of Total.
1938.	38,716.	1101.	2.84.
1946.	45,785.	1563.	3.41.
1947.	44,360.	1497.	3.37.
1948.	43,718.	1509.	3.45.
1949.	41,708.	1420.	3.40.
1950.	40,459.	1444.	3.57.
1951.	41,361.	1458.	3.53.
1952.	41,154.	1543.	3.75.
1953.	40,902.	1561.	3.82.
1954.	41,974.	1608.	3.83.
1955.	43,199.	1609.	3.72.
1956.	43,963.	1587.	3.61.
1957.	42,661.	1534.	3.60.
1958.	41,186.	1459.	3.54.
1959.	40,442.	1509.	3.73.
1960.	40,103.	1516.	3.78.
1961.	40,562.	1607.	3.96.

APPENDIX TABLE X.

PERCENTAGE DISTRIBUTION OF MARRIAGES (BRIDES) BY AGE GROUPS, SCOTLAND, 1938, 1951, 1956, 1961.

YEAR.	AGE AT MARRIAGE.							
	ALL AGES	16-17	18-20	21-24	25-29	30-34	35-44	45 & over.
1938	100	2.52	15.92	30.81	28.22	12.41	7.28	2.84.
1951	100	2.20	22.30	37.37	20.77	7.54	6.30	3.53.
1956	100	3.84	27.44	36.88	16.87	6.15	5.19	3.61.
1961	100	6.08	30.22	36.96	13.50	4.64	4.63	3.96.

APPENDIX TABLE XI.

THE PROPORTION OF FEMALES MARRIED AT VARIOUS AGES IN SCOTLAND IN 1931, 1951 and 1962.

AGE GROUP	PROPORTION MARRIED.		
	1931	1951	1962
16-19	2.8	4.4	8.5
20-24	22.8	39.5	54.6
25-29	49.8	69.7	83.8
30-34	65.7	78.3	84.5
35-39	69.7	79.2	82.6
40-44	69.8	76.4	82.8
16-44	45.6	59.6	67.3

APPENDIX TABLE XII.

NUMBER OF MARRIAGES IN 5 - YEAR AVERAGES.

QUINQUENNIAL AGE GROUPS OF FEMALES. SCOTLAND. 1946-60.

QUINQUENNIAL AGE GROUP.	AVERAGE ANNUAL NUMBER OF MARRIAGES.		
	1946 - 50	1951- 55	1956 - 60
16-19	5,764	6,749	9,026.
20-24	19,080	19,905	20,274
25-29	9,828	8,008	6,471
30-34	3,766	3,041	2,334
35-39	2,091	1,476	1,267
40-44	1,190.	983	779.
16-44	41,719	40,162	40,150.

APPENDIX TABLE - XIII.

PERCENTAGE OF CHILDLESS WOMEN AGED 45-49 AT THE DATE OF 1951 CENSUS.

SCOTLAND. MARRIED ONCE ONLY AND ENUMERATED WITH HUSBAND.

CLASSIFIED BY AGE AT MARRIAGE.

	AGE AT MARRIAGE.						
	All ages	16-19	20-24	25-29	30-34	35-39	40-49
Total Women	90,412	8,860	33,499	25,606	12,843	5,818	3,786.
Women with No Children.	16,578	368	2,492	3,937	3,686	2,952	3,143.
Percent. of women with no Children.	18.3	4.2	7.4	15.4	28.7	50.7	83.0

APPENDIX TABLE - XIV.

MEAN FAMILY SIZES IN WOMEN AGED 45-49 AT THE DATE OF 1951 CENSUS. SCOTLAND. MARRIED ONCE ONLY AND ENUMERATED WITH HUSBAND. DISTRIBUTED BY SOCIAL CLASS OF HUSBAND AND BY AGE AT MARRIAGE.

	AGE AT MARRIAGE.						
Social Class	All ages.	16-19	20-24	25-29	30-34	35-39	40-49
All Social Classes.	2.52	4.59	3.22	2.12	1.47	0.82	0.28
I.	1.57	3.08	2.11	1.71	1.26	0.60	0.17
II.	1.94	3.88	2.60	1.84	1.41	0.75	0.23
III.	2.36	4.32	3.02	1.99	1.38	0.79	0.26
IV.	3.04	4.85	3.68	2.51	1.73	0.97	0.33
V.	3.36	5.25	4.01	2.87	1.75	0.92	0.42

TOTAL NUMBER OF LEGITIMATE BIRTHS. SCOTLAND. 1946 - 1962.

APPENDIX TABLE XV.

YEAR.	TOTAL NUMBER OF LEGITIMATE BIRTHS.
1946	97,465
1947	106,836
1948	94,568
1949	90,451
1950	87,693
(1946-50)	95,403
1951	86,047
1952	86,116
1953	86,682
1954	88,138
1955	88,548
(1951-55)	87,106
1956	91,244
1957	93,960
1958	95,408
1959	95,117
1960	96,883
(1956-60)	94,522
1961	96,521
1962	99,314

APPENDIX TABLE - XVI

AVERAGE ANNUAL NUMBER OF LEGITIMATE BIRTHS BY AGE OF MOTHER

IN TWO 5 - YEAR PERIODS, 1951-55 and 1956-60.

SCOTLAND.

AGE OF THE MOTHER.	AVERAGE ANNUAL BIRTHS		INCREASE IN 1956-60.		DECREASE IN 1956-60 IN NUMBER.
	1951-55	1956-60	IN NUMBER	IN PROPORTION	
16-19	3,216	4,617	1,401	17.09	
20-24	24,406	28,552	4,146	50.57	
25-29	27,527	30,122	2,595	31.65	
30-34	18,980	18,770			210
35-39	9,772	9,829	57	0.70	
40-44	2,935	2,446			489
45+ and Not Stated	270	186			84
			8,199	100	

APPENDIX TABLE XVII.

AVERAGE ANNUAL NUMBER OF LEGITIMATE BIRTHS BY AGE OF MOTHER IN TWO 5 - YEAR PERIODS, 1951 - 55 and 1956- 60.

SCOTLAND.

AGE OF THE MOTHER	AVERAGE ANNUAL BIRTHS		INCREASE IN NUMBER	RATIO TO 1951-55 (1951-55 = 100)
	1951-55	1956-60		
16-29	55,149	63,291	+8,142	114.8
30-44	31,687	31,045	- 642	98
45 and above and not stated group	270	186	- 84	69
Total -	87,106	94,522	+7,416	108.5

APPENDIX TABLE XVIII.

AVERAGE ANNUAL NUMBER OF LEGITIMATE BIRTHS BY DURATION OF MARRIAGE IN TWO 5 - YEAR PERIODS, 1951 - 55 AND 1956 - 60.

SCOTLAND.

DURATION OF MARRIAGE. (In years).	AVERAGE ANNUAL NUMBER		DIFFERENCE IN NUMBER FROM 1951-55
	1951 - 55	1956 - 60	
< 1	12,703	13,176	+ 473
1	12,589	13,321	+ 732
2	9,462	10,792	+1,330
3	8,522	9,715	+1,193
4	7,504	8,396	+ 892
0-4	50,780	55,400	+4,620
5	6,406	7,030	+ 624
6	5,240	5,837	+ 597
7	4,158	4,902	+ 744
8	3,402	4,084	+ 682
9	2,909	3,388	+ 479
5-9	22,115	25,241	+3,126
0-9	72,895	80,641	+7,746
10-14	9,963	9,548	- 415
15-19	3,359	3,550	+ 191
20-24	834	696	- 138
25 and over	56	86	+ 30
10 and over	14,212	13,880	- 332
Total	87,107	94,521	+7,414

APPENDIX TABLE - XI[X].

AVERAGE ANNUAL NUMBER OF LEGITIMATE BIRTHS BY BIRTH ORDER IN TWO 5 - YEAR PERIODS, 1951 - 55 AND 1956- 60.

SCOTLAND.

(EXCLUDING NOT STATED GROUP).

BIRTH ORDER	AVERAGE ANNUAL NUMBER OF BIRTHS.		INCREASE		DECREASE IN NUMBER FROM 1951-55.
	1951-55	1956-60	IN NUMBER	IN PERCENT.	
1st	31,799	34,024	2,225	29.00	
2nd	24,506	27,188	2,682	34.95	
3rd	14,048	15,562	1,514	19.73	
4th	7,422	8,046	624	8.13	
5th	3,983	4,307	324	4.22	
6th	2,200	2,413	213	2.78	
7th	1,240	1,331	91	1.18	
1st-7th	85,198	92,871	7,673	100.	
8th	743	726			17
9th	446	397			49
10th	264	226			38
11th-15th	353	258			95
16th and above	15	11			4
8th and above	1,821	1,618			203
TOTAL	87,019	94,489	7,470		

APPENDIX TABLE XX

NUMBER & PERCENTAGE OF LEGITIMATE BIRTHS OF DIFFERENT BIRTH ORDERS IN EACH AGE GROUP OF MOTHER-1951-55, 1956-60 (BASED ON AVERAGE ANNUAL BIRTHS).

(i) BIRTH ORDER - 1.

AGE GROUP OF MOTHER	1951-55		1956-60	
	NUMBER	PERCENT.	NUMBER	PERCENT.
16-19	2,776	8.73	3,912	11.50
20-24	14,165	44.55	15,910	46.76
25-29	9,311	29.28	9,129	26.83
30-34	3,801	11.95	3,439	10.11
35-39	1,392	4.38	1,347	3.96
40-44	336	1.06	272	0.80
45 and over and not stated group.	18	0.06	14	0.04
TOTAL-	31,799	100	34,024	100

(ii) BIRTH ORDER - 2

AGE GROUP OF MOTHER.	1951-55		1956-60	
	NUMBER	PERCENT.	NUMBER	PERCENT.
16-19	405	1.65	653	2.40
20-24	7, 061	28.81	8,778	32.29
25-29	9, 199	37.54	10,378	38.17
30-34	5, 435	22.18	5,199	19.12
35-39	1,965	8.02	1,867	6.87
40-44	427	1.74	300	1.10
45 and over and not stated group	15	0.06	14	0.05
TOTAL -	24,506	100	27,188	100

(iii) BIRTH ORDER - 3

AGE GROUP OF MOTHER.	1951-55		1956-60	
	NUMBER	PERCENT.	NUMBER	PERCENT.
16-19	34	0.24	49	0.31
20-24	2,351	16.73	2,874	18.47
25-29	4,986	35.49	5,874	37.74
30-34	4,222	30.05	4,308	27.68
35-39	1,987	14.14	2,041	13.11
40-44	452	3.22	396	2.54
45 and over and not stated group.	17	0.12	21	0.13
TOTAL -	14,048	100	15,562	100

(iv) BIRTH ORDER - 4

AGE GROUP OF MOTHER	1951-55		1956-60	
	NUMBER	PERCENT.	NUMBER	PERCENT.
16-19	1	0.01	3	0.04
20-24	645	8.69	765	9.51
25-29	2,401	32.35	2,696	33.53
30-34	2,487	33.51	2,582	32.09
35-39	1,463	19.71	1,603	19.92
40-44	403	5.43	373	4.64
45 and over and not stated group.	22	0.30	22	0.27
TOTAL -	7,422	100	8.046	100

(V) BIRTH ORDER - 5

AGE GROUP OF MOTHER.	1951-55		1956-60	
	Number	Percent.	Number	Percent.
16-19	-	-	-	-
20-24	154	3.87	183	4.25
25-29	1,028	25.81	1,220	28.33
30-34	1,433	35.98	1,503	34.90
35-39	1,025	25.73	1,066	24.75
40-44	326	8.18	316	7.34
45 and over and not stated group.	18	0.45	19	0.44
TOTAL -	3,983	100	4,307	100

(V1) BIRTH ORDER - 6

AGE GROUP OF MOTHER.	1951-55		1956-60	
	NUMBER	PERCENT.	NUMBER	PERCENT.
16-19	-	-	-	-
20-24	28	1.27	35	1.45
25-29	410	18.64	537	22.25
30-34	779	35.41	849	35.18
35-39	702	31.91	739	30.63
40-44	260	11.82	237	9.82
45 and over and not stated group.	21	0.95	17	0.70
TOTAL -	2,200	100	2,413	100

(V11) BIRTH ORDER - 7

AGE GROUP OF MOTHER.	1951-55		1956-60	
	NUMBER	PERCENT	NUMBER	PERCENT
16-19	-	-	-	-
20-24	3	0.24	6	0.45
25-29	137	11.05	195	14.65
30-34	432	34.84	472	35.46
35-39	453	36.53	474	35.61
40-44	199	16.05	173	13.00
45 and over and not stated group.	16	1.29	12	0.90
TOTAL -	1,240	100	1,331	100

(V111) BIRTH ORDER-8 and above.

AGE GROUP OF MOTHER.	1951-55		1956-60	
	NUMBER	PERCENT	NUMBER	PERCENT.
16-19	-	-	-	-
20-24	-	-	-	-
25-29	56	3.07	92	5.69
30-34	392	21.51	419	25.88
35-39	786	43.14	693	42.80
40-44	533	29.25	380	23.47
45 and over and not stated group.	55	3.02	35	2.16
TOTAL	1,822	100	1,619	100

APPENDIX TABLE XXI.

NUMBER AND PERCENTAGE OF LEGITIMATE BIRTHS OF DIFFERENT BIRTH ORDERS BY DURATION OF MARRIAGE IN TWO 5 - YEAR PERIODS, 1951-55 and 1956-60. (BASED ON AVERAGE ANNUAL NUMBER OF BIRTHS, EXCLUDING NOT STATED GROUP).

BIRTH ORDER	DURATION OF MARRIAGE IN YEARS.	AVERAGE ANNUAL BIRTHS 1951-55 NUMBER	PERCENT	1956-60 NUMBER	PERCENT.
1.	0-4	29,399	92.43	31,223	91.76
	5-9	1,880	5.91	2,261	6.65
	10+	532	1.67	540	1.59
	TOTAL-	31,799	100	34,024	100
2.	0-4	15,802	64.47	18,019	66.27
	5-9	7,138	29.12	7,736	28.45
	10+	1,565	6.39	1,433	5.27
	TOTAL	24,506	100	27,188	100
3.	0-4	4,468	31.80	5,011	32.20
	5-9	6,722	47.85	7,723	49,62
	10+	2,858	20.34	2,828	18.17
	TOTAL	14,048	100	15,562	100
4.	0-4	899	12.11	952	11.83
	5-9	3,790	51.06	4,301	53.45
	10+	2,733	36.82	2,793	34.71
	TOTAL	7,422	100	8,046	100

APPENDIX TABLE XXI. (CONTD).

BIRTH ORDER	DURATION OF MARRIAGE IN YEARS.	AVERAGE ANNUAL BIRTHS 1951-55 NUMBER	PERCENT.	1956-60 NUMBER	PERCENT.
5.	0-4	131	3.29	136	3.16
	5-9	1,685	42.30	2,000	46.44
	10+	2,166	54.38	2,170	50.38
	TOTAL	3,983	100	4,307	100
6.	0-4	26	1.18	28	1.16
	5-9	619	28.14	816	33.82
	10+	1,556	70.73	1,569	65.02
	TOTAL	2,200	100	2,413	100
7.	0-4	6	0.48	9	0.68
	5-9	188	15.16	281	21 .11
	10+	1,046	84.35	1,042	78.29
	TOTAL	1,240	100	1,331	100
8+ and above.	0-4	8	0.44	6	0.37
	5-9	69	3.79	111	6.86
	10+	1,744	95.77	1,501	92.77
	TOTAL	1,821	100	1,618	100

APPENDIX TABLE - XXII.

AVERAGE ANNUAL NUMBER OF LEGITIMATE BIRTHS BY BIRTH ORDER IN FEMALES MARRIED FOR 0 - 4 YEARS IN TWO 5 - YEAR PERIODS, 1951- 55 AND 1956 - 60.

SCOTLAND.

(EXCLUDING NOT STATED GROUP).

BIRTH ORDER.	AVERAGE ANNUAL NUMBER OF BIRTHS.		RATIO TO 1951-55 1951-55 = 100
	1951 - 55	1956 - 60	
1st born	29,399	31,223	106.2
2nd born	15,802	18,019	114
3rd born and above	5,538	6,142	110.9
TOTAL-	50,739	55,384	109.

APPENDIX TABLE - XXIII.

THE NUMBER AND PROPORTION OF ONE-PARITY WOMEN HAVING A SECOND CHILD IN TWO COHORTS BY SOCIAL CLASS AND AGE AT MARRIAGE.

	1951 COHORT.			1956 COHORT.			
	NUMBER OF ONE-PARITY WOMEN.	NUMBER OF WOMEN WITH SECOND BORN.	PERCENT OF ONE-PARITY WOMEN WITH SECOND BORN.	NUMBER OF ONE-PARITY WOMEN.	NUMBER OF WOMEN WITH SECOND BORN.	PERCENT OF ONE-PARITY WOMEN WITH SECOND BORN.	DIFFERENCE IN PERCENT FROM THE 1951 COHORT.
AGE GROUP.							
16-19	324	231	71.30	476	319	67.02	-4.28
20-24	875	494	56.46	900	532	59.11	+2.65
25-29	298	139	46.64	258	140	54.26	+7.62
30-34	78	32	41.02	72	38	52.78	+11.76
35-39	41	12	29.27	25	7	28.00	- 1.27
40-44	5	-	-	3	-	-	-
30-44	124	44	35.48	100	45	45.00	+9.52
16-44	1621	908	56.01	1734	1036	59.75	+3.74
SOCIAL CLASS							
I+II	206	115	55.82	204	112	54.90	-0.92
III	872	463	53.10	988	579	58.60	+5.50
IV+V	535	326	60.93	531	341	64.22	+3.29
N.S.	8	4	50.00	11	4	36.36	-13.64.

APPENDIX TABLE - XXIV.

THE NUMBER OF FIRST BIRTHS BORN AFTER MARRIAGE BY DURATION OF MARRIAGE IN THE 1951 AND 1956 COHORTS. BY AGE AT MARRIAGE AND SOCIAL CLASS.

A. THE 1951 COHORT.

AGE GROUP.	DURATION OF MARRIAGE IN COMPLETED YEARS. BELOW 1	1	2	3	4	5	TOTAL NUMBER OF FIRST BIRTHS.
16-19	224	51	28	7	8	1	319
20-24	402	251	103	56	37	12	861
25-29	122	87	47	25	7	6	294
30-34	35	24	8	4	3	1	75
35-39	18	11	8	1	1	-	39
40-44	1	1	3	-	-	-	5
SOCIAL CLASS.							
1.	8	10	7	3	2	-	30
II.	72	55	20	15	7	4	173
III.	404	238	117	57	32	11	859
IV.	191	82	32	9	8	3	325
V.	121	40	20	8	7	2	198
N.S.	6	-	1	1	-	-	8
TOTAL	802	425	197	93	56	20	1593
PERCENT OF TOTAL FIRST BIRTHS.	50.34	26.68	12.37	5.84	3.52	1.26	100

APPENDIX TABLE - XXIV.

B. THE 1956 COHORT.

AGE GROUP.	DURATION OF MARRIAGE IN COMPLETED YEARS. BELOW 1	1.	2.	3.	4.	5.	TOTAL NUMBER OF FIRST BIRTHS.
16-19	284	109	43	21	9	4	470
20-24	382	278	115	76	32	9	892
25-29	113	77	24	26	9	2	251
30-34	33	21	12	3	2	-	71
35-39	8	12	4	-	1	-	25
40-44	1	2	-	-	-	-	3
SOCIAL CLASS.							
I.	7	17	10	7	5	-	46
II.	62	54	21	13	6	-	156
III.	437	303	112	79	34	13	978
IV.	183	75	30	17	6	1	312
V.	124	49	24	9	2	1	209
N.S.	8	1	1	1	-	-	11
TOTAL	821	499	198	126	53	15	1712
PERCENT OF TOTAL FIRST BIRTH.	47.96	29.15	11.56	7.36	3.10	0.88	100

APPENDIX TABLE - XXV.

THE NUMBER AND PROPORTION OF FIRST BIRTHS
BORN WITHIN 8 MONTHS AFTER MARRIAGE IN TWO COHORTS
BY AGE AT MARRIAGE AND SOCIAL CLASS.

	1951 COHORT.			1956 COHORT.			
	FIRST BORN WITHIN 8 MONTHS.	TOTAL FIRST BORN.	PERCENT OF TOTAL.	FIRST BORN WITHIN 8 MONTHS.	TOTAL FIRST BORN.	PERCENT OF TOTAL.	DIFFERENCE IN PERCENT FROM 1951 COHORT.
AGE GROUP.							
16-19	173	319	54.23.	208	470	44.26	-9.97
20-24	261	861	30.31	210	892	23.54	-6.77
25-29	66	294	22.45	52	251	20.72	-1.73
30-34	17	75	22.67	13	71	18.31	-4.36
35-39	10	39	25.64	5	25	20.00	-5.64
40-44	1	5	20.00	1	3	33.33	+13.33
30-44	28	119	23.53	19	99	19.19	-4.34
SOCIAL CLASS.							
I and II	44	203	21.67	36	202	17.82	-3.85
III.	245	859	28.52	242	978	24.74	-3.78
IV & V.	234	523	44.74	206	521	39.54	-5.20
N.S.	5	8	62.50	5	11	45.45	-17.05
TOTAL	528	1,593	33.15	489	1,712	28.56	-4.59

Appendix Table - XXVI

The number of second births born after marriage by duration of marriage in 1951 and 1956 cohorts. By age at marriage and social class.

A. The 1951 cohort.

	Duration of marriage in completed years						Total number of second births
	Below 1	1	2	3	4	5	
Age group							
16 - 19	3	60	71	58	31	8	231
20 - 24	9	82	133	131	101	38	494
25 - 29	2	21	33	30	38	14	138
30 - 34	1	7	9	12	1	1	31
35 - 39		2	7	2	1	-	12
40 - 44							NIL
Social class							
I		1	1	5	2		9
II	1	14	28	31	22	10	106
III	7	70	123	131	97	33	461
IV	2	55	64	38	39	10	208
V	5	31	36	28	10	8	118
N.S.		1	1		2		4
Total	15	172	253	233	172	61	906
Per cent. of total second births	1.66	18.98	27.92	25.72	18.98	6.73	

Appendix Table - XXVI

B. The 1956 cohort.

	Duration of marriage in completed years						Total number of second births
	Below 1	1	2	3	4	5	
Age group							
16 - 19	4	54	111	80	52	17	318
20 - 24	6	59	155	134	134	44	532
25 - 29	2	18	35	40	31	13	139
30 - 34	1	5	15	6	9	1	37
35 - 39		1	2	1	3		7
40 - 44							NIL
Social class							
I			5	5	6	3	19
II	2	7	30	24	21	8	92
III	5	60	170	155	140	48	578
IV	2	39	70	43	38	9	201
V	4	31	42	32	23	7	139
N.S.			1	2	1		4
Total	13	137	318	261	229	75	1033
Per cent. of total second births	1.26	13.26	30.78	25.27	22.17	7.26	

Appendix Table - XXVII

Premuptial births in two cohorts by age at marriage, social class and birth order.

	1951 cohort			1956 cohort		
	1st birth	2nd birth	Total	1st birth	2nd birth	Total
Age group						
16 - 19	5	-	5	6	1	7
20 - 24	14	-	14	8	-	8
25 - 29	4	1	5	7	1	8
30 - 34	3	1	4	1	1	2
35 - 39	2	-	2	-	-	-
40 - 44	-	-	-	-	-	-
Social class						
I + II	3	-	3	2	1	3
III	13	2	15	10	1	11
IV + V	12	-	12	10	1	11
N.S.	-	-	-	-	-	-
Total	28	2	30	22	3	25

Appendix Table - XXVIII

Mean family size at different durations of marriage in two cohorts by age at marriage and social class. Based on live births only.

Age group	cohort	Duration of marriage in years					
		Below 1	1	2	3	4	5
16 - 44	1951	0.403	0.689	0.916	1.127	1.300	1.381
	1956	0.371	0.646	0.882	1.093	1.272	1.341
16 - 19	1951	0.643	0.952	1.256	1.551	1.795	1.882
	1956	0.547	0.848	1.152	1.403	1.629	1.704
20 - 24	1951	0.400	0.716	0.953	1.184	1.373	1.474
	1956	0.341	0.631	0.876	1.097	1.288	1.369
25 - 29	1951	0.321	0.589	0.784	0.955	1.120	1.185
	1956	0.333	0.592	0.763	0.972	1.116	1.165
30 - 34	1951	0.284	0.507	0.634	0.769	0.806	0.828
	1956	0.288	0.496	0.720	0.840	0.960	0.992
35 - 39	1951	0.205	0.349	0.530	0.566	0.602	0.614
	1956	0.110	0.274	0.356	0.384	0.425	0.452
40 - 44	1951	0.021	0.043	0.106	0.106	0.106	0.106
	1956	0.023	0.070	0.070	0.070	0.070	0.070
30 - 44	1951	0.212	0.375	0.508	0.568	0.598	0.614
	1956	0.187	0.353	0.481	0.552	0.626	0.651
Social class. (excluding 'Not stated' group)							
I and II	1951	0.288	0.568	0.765	0.989	1.158	1.250
	1956	0.240	0.490	0.711	0.903	1.065	1.120
III	1951	0.371	0.641	0.860	1.071	1.238	1.308
	1956	0.345	0.620	0.841	1.054	1.236	1.307
IV and V	1951	0.510	0.830	1.086	1.292	1.482	1.575
	1956	0.483	0.776	1.050	1.267	1.451	1.524

Appendix Table - XXIX.

Ratio of mean family size at different durations of marriage of the 1956 cohort to that of the 1951 cohort. The mean family size of the 1951 cohort has been taken at 1000. By age at marriage and social class. Based on live births only.

cohort	Duration of marriage in years					
	Below 1	1	2	3	4	5
1951	1000	1000	1000	1000	1000	1000
1956 Age groups						
All ages	920	938	963	970	978	971
16 - 19	851	891	917	904	908	905
20 - 24	852	881	919	926	938	929
25 - 29	1037	1005	973	1018	996	983
30 - 34	1014	978	1136	1092	1191	1198
35 - 39	536	785	672	678	706	736
40 - 44	1095	1628				
30 - 44	882	941	947	972	1047	1060
Social class (excluding 'Not stated' group)						
I and II	833	863	929	913	920	896
III	930	967	978	984	998	999
IV and V	947	935	967	981	979	968

Appendix Table - XXX.

Family size distribution in two cohorts by age at marriage and social class. Based on live births only.

A. 1951 cohort.

	Family Size											
	0		1		2		3		4		5	
	Number	Per cent.	Number	Per cent.	Number	Per cent.	Number	Per cent.	Number	Per cent.	Number	Per cent.
Age group												
16 -19	32	8.99	97	27.25	130	36.52	77	21.63	18	5.06	2	0.56
20 -24	173	16.52	388	37.06	334	31.90	121	11.56	31	2.96	-	-
25 -29	103	25.81	160	40.10	100	25.06	31	7.77	5	1.25	-	-
30 -44	143	54.17	81	30.68	36	13.64	2	0.76	2	0.76	-	-
Social class (excluding 'Not stated' group)												
I and II	81	28.42	90	31.58	82	28.77	26	9.12	6	2.10	-	-
III	255	22.69	418	37.19	325	28.91	103	9.16	22	1.96	1	0.09
IV and V	109	16.95	214	33.28	191	29.70	100	15.55	28	4.35	1	0.16

Appendix Table - XXX

B. 1956 cohort.

	Family Size											
	0		1		2		3		4		5	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Age group												
16 -19	60	11.24	160	29.96	210	39.32	87	16.29	16	3.00	1	0.19
20 -24	256	22.24	367	31.88	399	34.66	107	9.30	20	1.74	2	0.17
25 -29	106	29.20	121	33.33	110	30.30	23	6.34	2	0.55	1	0.28
30 -44	141	58.51	56	23.24	30	12.45	12	4.98	2	0.83	-	-
Social class (excluding 'Not stated' group)												
I and II	104	33.77	95	30.84	81	26.30	25	8.12	2	0.65	1	0.32
III	325	24.85	409	31.27	438	33.49	122	9.33	12	0.92	2	0.15
IV and V	128	19.51	193	29.42	226	34.45	82	12.50	26	3.96	1	0.15